Structural Adjustment and Poverty:
A Conceptual, Empirical and Policy Framework

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Foreword

This document is produced as part of the work undertaken under the Social Dimensions of Adjustment (SDA) Program in Africa. This initiative is co-sponsored by UNDP, AfDB and the World Bank, and is also supported by several bilateral and multilateral aid agencies, with the World Bank as executing agency. To date, twenty-nine governments have asked to participate in this program.

The program aims at thoroughly integrating social dimensions into economic and financial decision making. To do so, it pursues several parallel tracks:

- first, within each country, a special institution building effort is being launched to strengthen national capability for policy analysis, project identification, preparation and implementation. This includes coordination mechanisms, training of nationals and some limited foreign technical assistance;
- second, country-specific studies dealing with poverty alleviation and economic policy are being undertaken. These would serve as inventory of existing knowledge, baseline for monitoring future change, and foundation for proposals for specific actions;
- third, developing an adequate data base for analysis of social issues, and formulation of socio-economic policy through systematic annual household surveys, punctuated by an in-depth survey every few years;
- fourth, and perhaps most importantly, by improving our understanding of the links between conceptual, empirical, policy issues involved in the integration of social and economic policies and programs.

This document deals with this last track, and represents the state of present thinking on these issues, as well as contributions by the authors. It is divided into three major sections. The first deals with the conceptual framework of the SDA program, which establishes the broad theoretical underpinnings of the policy approach and the major concepts that are to be used. This section sets the boundaries for the investigative studies and provides the necessary economic rationale for empirical work to be both consistent across countries and helpful for policy design. In the second section, the paper applies this conceptual framework in a real-world setting by outlining an empirical framework for data analysis. The objective of this section is to provide guidance to participating country teams in assembling and analyzing the necessary data in order to achieve the objectives of the SDA initiative. The third section explores the major policy issues that must be faced by governments in integrating social dimensions in the design of their structural adjustment programs and development plans. This document should be perceived as the start of an ongoing search on these issues, a search of great urgency in Africa, but of truly universal interest.

It is important for readers to know, however, that in parallel to pursuing these questions, the SDA initiative also supports governments in the formulation of social action programs, to respond to the pressing needs they face. Clearly,
these social action programs are based on inadequate data bases in most cases. They represent, however, the best judgments that can be brought to bear on these issues in the given country, and are in no way a substitute for the parallel in-depth work being done at the country level or at the conceptual level.

Ultimately, as these various streams (institution building, conceptual thinking, data base development and social action programs on the ground) are being implemented, integration of these activities will be deeper. They are managed in the countries and at the Bank by the same teams, and the synergies will undoubtedly become more apparent over time. With such efforts, the thorough integration of the social dimensions into economic and financial policies will gradually become a reality. We hope that this document will prove a useful contribution on this long and arduous road.

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Executive summary

Conceptual framework

Introduction

1. There are at least two important reasons for focusing on the social dimensions of adjustment in Africa at the present time. First, it is now some sixteen years since the first oil shock of the 1970s, and since then, the developing countries of the region have experienced economic turbulence, shocks and unsustainable macro-imbances. After the commodity-price boom of the mid 1970s, most countries have faced persistent declines in their terms of trade, caused in part by a general recession in the developed market economies. Interest-rate hikes have compounded their debt problems, while internal shocks (notably the sustained drought of the early 1980s) have considerably weakened their capacity to deal with macro-imbances. In all of this, the poorer groups in African societies have suffered, and with little margin above subsistence, many have found themselves with little room for maneuver.

2. Secondly, with a return to a longer-term policy perspective, greater emphasis is now being given to restoring sustainable growth. Therefore, it is now both feasible and essential to give more careful thought to the social dimensions of adjustment: to consider how poorer groups in society can be encouraged to participate in the recovery; to examine how the health and education of the populations are likely to be affected; to investigate the effects on food security and nutrition; in short, to trace how structural adjustment policies will ultimately affect the well-being of the populations involved. The social dimension, however, is not only important for equity; unless human capital is protected, sustainable economic growth in many African countries will itself be threatened.

A. The meaning of adjustment

3. The terms “adjustment”, “structural adjustment” and “stabilization” are commonplace, and yet their use is often imprecise and inconsistent. Adjustment is best considered as the implementation of comprehensive shifts in macro- and micro-policies, both to respond to various shocks and to rectify inappropriate past policies that have hampered economic performance, the fundamental objective of which is to restore sustainable economic growth. These shocks have adversely affected the whole range of economic policy objectives, including the balance of payments, price stability, full employment, economic growth, the protection of the environment, and equity/poverty reduction. Shocks, whether internal or external, affect all policy objectives, and not simply the balance of payments and price stability, which is the traditional focus. Attention is more narrowly centered on how adjustment programs have affected the goal of poverty reduction and the wider social objectives of governments. Stabilization and structural adjustment should be regarded as two types of adjustment response by African governments. In restoring internal and external equilibria, stabilization is intended to re-align domestic absorption with domestic supply, whereas structural adjustment
is designed to change the equilibrium configuration itself.

B. The policy problem

4. As a basis for policy design, the SDA initiative must establish analytically the links between the macro-economy on the one hand and the micro-economy of households and enterprises on the other. This link between the macro and the micro, termed the "meso" (or middle), comprises the following key elements:

- Markets are the main links between the macro-economy and individual households. These include product and factor markets, both official and parallel. Adjustment will alter the market conditions faced by households and enterprises through changing relative prices or the quantities traded.
- Economic infrastructure is a crucial part of the meso-economy in Sub-Saharan Africa. It is directly affected by macro-economic policy, including public expenditures on physical infrastructure and support services. These can have noticeable effects on household income, especially in the rural sector. We include here the provision of support services (such as agricultural extension services) which influence the generation of primary incomes by households.
- Social infrastructure, consisting of health, education, nutrition support, and other transfers, affects the income households obtain through market opportunities. These services also have direct effects on household welfare, especially in the case of health services.

5. The objective is to establish how the macro-economic processes initiated under adjustment programs affect households, which requires an empirical understanding of the meso-economic linkages. Conceptually, the SDA program faces two major challenges. First, it must identify the main links between events in the macro-economy (notably internal and external shocks and the consequent adjustment programs) and the meso-economy. Second, it must establish in what ways these intervening meso-economic variables affect individuals and households over time.

The meso-effects of disequilibria and adjustment

6. This section considers how the macro-economic imbalances that have been experienced in African countries, and the consequent adjustment responses have affected their real economies.

A. The causes of macro-disequilibria

7. The underlying causes of these imbalances can be divided into two broad groups:

- shocks, which can be generated externally (such as the oil-price hikes, or the interest-rate shock) or internally (including environmental shocks such as prolonged drought); and
- inappropriate domestic policies, including over-expansory fiscal and monetary policies and domestic pricing policies that are biased against agriculture.

8. These factors have contributed to economic distress in almost all African countries, although their relative importance varies across the region, and over time. There are obvious connections between these two sources of destabilization. The decline in the net barter terms of trade in the 1980s for most African countries (and especially the IDA-eligible low-income countries) was in part the cause of over-expansory fiscal policy, since the latter was based on false expectations of future terms of trade movements.

9. While policy responses to these shocks have been varied and complex, there are basically three courses of action that governments take to deal with balance of payments problems: (i) finance the current account deficit through external capital inflows; (ii) reduce the deficit to the level of available external capital through tightening capital and trade restrictions; or (iii) implement adjustments in macro- and micro-economic policies to restore a viable balance of payments position through export expansion and import substitution. Governments have generally followed these strategies chronologically — beginning with financing, then applying import controls, and finally undertaking adjustment. One of the difficulties faced by African governments is that they have been obliged to deal with multiple shocks: beginning with oil-price hikes in the 1970s, but followed by interest-rate increases, commodity-price declines, and drought.

B. An analytical framework

10. In order to facilitate thinking on these issues, it is helpful to specify a simple analytical scheme or model, on the basis of which an understanding is gained of how destabilization and
adjustment affect the meso-economy. The model is not intended to be applied strictly in each and every country participating in the SDA program; that would be impossible given the variety of country characteristics and circumstances in the region. But it is helpful in clarifying the major consequences of policy change by dispensing with relatively minor detail.

11. The standard international trade or "orthodox" model, based on the Meade-Salter-Swan or dependent-economy model is a useful starting point. Consider a small, open economy which is a price taker in international product markets. If the domestic relative price of exportables to importables is fixed, they can be combined into a composite commodity — tradables. Given the small-country assumption, the domestic price of tradables (P) will be determined by the prevailing world price and the exchange rate. Since non-tradables are by definition not traded in world markets, their price (P) is determined entirely by domestic supply and demand.

12. One of the challenges facing the SDA will be to operationalize the distinctions between exportables, importables and non-tradables in the real world settings of Africa. The classification is rarely straightforward in practice. Products can cross over from one category to another as policies change the domestic price. Classifications can also change geographically. A certain commodity may be exportable at or near the port of entry, but as transportation costs increase its price in remoter areas, it may become entirely insulated from world markets — that is, a non-tradable. In its empirical initiative, the SDA must identify such changes in classification, since these are important signals of the effects of adjustment policy on product markets.

13. From the dependent-economy model, four major effects of an expansionary monetary and fiscal policy can be derived. First, it will lead to a current account balance of payments deficit, since the increased demand generated for tradables will raise imports, and direct exports to the home market. Second, the excess demand for non-tradables will raise P, so that P/P will rise — a real exchange rate appreciation — inducing resource transfers into non-tradables. Third, factor prices will change in response to these sectoral shifts: in the short run, real wages will fall if workers consume sufficient non-tradables; in the long run, they will fall if the tradables sector is relatively labor intensive. Finally, increased government expenditures may affect the economic and social infrastructure, depending on the nature of the fiscal expansion. Macro-economic disequilibrium has affected all the main elements of the meso-economy.

14. Analyzing a terms of trade shock requires exportables to be distinguished from importables, and possibly also a distinction between protected and non-protected importables. If a terms of trade decline is superimposed on a situation of general fiscal expansion, the effects on the meso-economy noted above are modified. Notably, with P/P falling, resource transfers will tend to be out of exportables and into importables and non-tradables. Moreover, if a government raises P further through tariffs or import controls, resources will be drawn from exportables and non-protected importables into non-tradables and protected importables.

15. When governments rely on import and exchange controls, the repercussions can be far more drastic than the simple orthodox (full employment) model suggests. This is because these controls have significant effects on the level of aggregate economic activity, leading to declines in domestic product and employment. Even producers of non-tradables and protected importables, who benefited from the destabilization, will find their livelihoods adversely affected. With declining capacity utilization and growing unemployment, the prospects for those relying on wage income will also suffer. The only groups who are likely to gain from this regime are those with access to the increasingly scarce commodities, and who can sell in the emerging parallel markets, thus generating significant windfall incomes (or economic rents). These groups are unlikely to be poor.

D. Adjustment and its impact

16. Most adjustment programs in Africa consist in varying degrees of a currency devaluation; a reduction in the government deficit in order to bring expenditures into line with real resources; a liberalization of domestic product markets, bringing domestic prices into line with world prices; trade and exchange liberalization; and institutional reforms. Trade policies, public enterprise and agricultural policies account for about
two-thirds of the total number of policy conditions set under adjustment lending in 15 African countries recently reviewed by the World Bank. However, while 70 percent of exchange rate policy conditions were fully met, only 57 percent of agricultural policy conditions and 55 percent of trade policies were met in practice. Policies directed at changing relative prices tended to be more successfully implemented than those requiring institutional change.

17. The effects of these policies on the meso-economy can be divided into three categories. First, there are effects on product markets. A combination of exchange rate adjustment and fiscal/monetary contraction will initiate fundamental relative price movements in favor of tradables, causing resource switching into that sector. There may also be changes in relative prices within the tradables category, especially between tradables purchased in formal and parallel foreign-exchange markets, and between importables and exportables. Theory underlines the importance of relative price changes and price responsiveness. If relative prices are inflexible or if economic agents are unresponsive to price changes, this policy package can only correct macro-imbalances through reducing the level of economic activity.

18. Second, the adjustment-policy package will affect labor markets, the outcome depending on the time perspective taken, and on the structure of the market. In a competitive labor market (as assumed in the orthodox model), the movement in the real wage depends on workers' consumption propensities in the short run, and on relative factor intensities in the long run. The theory is strictly agnostic about how real wages will change — it is simply an empirical matter. If the labor market (or a section of it) is not competitive, the real-wage effects of a switching policy are modified significantly. Not all workers will be affected in the same way (as in the competitive case). If wages in the non-tradables sector are subject to non-market determination (as for example when non-tradables comprise mainly public-sector services), those working in non-tradables may experience a cut in their real wage, and the tradable/non-tradable (informal/formal) wage gap will narrow. But if adjustment leads to little switching, but only to a reduction in aggregate economic activity, the wage gap may widen.

19. Finally, the infrastructural effects of adjustment are likely to be critical in Africa. The evidence suggests that price responsiveness in the region is significantly slower than elsewhere in the developing world, and this is undoubtedly due to the deterioration of the economic and social infrastructure, both during the earlier recession, and as a result of adjustment.

20. The problems that arise from price inflexibility (and weak price responses) call for theoretical approaches in which fix-priced effects can be more carefully assessed. A Keynesian version of the dependent-economy model can be used to highlight the effects of monetary contraction and devaluation in the presence of unemployed resources. The former affects mainly the non-tradable sector, since tradable output is unaffected by the level of aggregate demand in the small-country case. In the model, the devaluation is expansionary, since it raises both tradable and non-tradable output. However, it leads unambiguously to a fall in the real wage. There are reasons to believe that a devaluation may in practice be contractionary (real balance effects, income distributions moving in favor of high savers, effect of imported intermediate goods, etc.), although this is essentially an empirical matter. For African countries, there are stronger grounds for expecting expansionary effects. If adjustment leads to an increase in foreign exchange availability, and the removal of quantity constraints in the foreign exchange market, it facilitates an increase in imported inputs and "incentive" consumer goods, both of which can be expected to raise domestic production.

The determinants of welfare

21. The "well-being" of individuals in African societies is the outcome of complex economic and social processes. Many of the decisions affecting the individual are made jointly with others since most people belong to "social units", for example, families and households. Such units act as an intermediary between economic processes on the one hand and individual welfare on the other. The determinants of welfare must therefore be analyzed in the context of these social units.

22. In African societies, the household unit is significant because many of the decisions affecting individual welfare are made at the household level, and households often consist of more than one family (with unrelated residents as well). Aside from being an important decision-making
unit, the household is a useful sample-unit for empirical work, because it is a collection of individuals with an identifiable location. The criteria used to identify households must be relevant to the local situation, since their size and characteristics show variations within and between countries. The criteria commonly employed include: a common source of income, a common source of food, and a sharing of the same roof or the same compound. Taking the household as the basic unit should not lead us to ignore the wider social networks within which African households typically operate. These are important in providing support in times of crisis.

A. The economy of the household

23. The physical status of its members (reflected in their health and nutritional status) is crucial to the performance of the household economy, since this is a major determinant of their labor productivity. The latter is further enhanced by the household's possession of human capital, productive assets - such as land and capital equipment - and durable goods. Using these endowments, households generate incomes through producing goods and services for sale, and through wage-employment. An income can also be "imputed" for the value of the goods and services that the household produces for its own consumption. In addition, some households add to their incomes through their ownership of productive assets (such as interest-bearing bank accounts) and by renting out their productive assets and durable goods to others. Many African households have a wide range of income sources. All of the incomes generated by the household itself are denoted primary incomes, thus distinguishing them from transfers to the household from other households or from the state, which are classified as secondary incomes.

24. Consumption and investment decisions are critical to the operation of the household economy. First, the household must generate sufficient income to sustain consumption of basic goods and services such as food and health care; otherwise the productivity and earnings of its members will fall. Second, the household must generate sufficient savings to replace depreciating productive assets. Failure to do this will lead to a fall in future income. Thus, the viability of the household economy rests on its ability to maintain certain levels of both consumption and investment.

B. Analyzing household behavior

25. There are a large number of ways, therefore, in which the household economy, and the welfare of its members, can potentially be favorably or unfavorably affected by events and policies. One adverse event can set off a whole chain of unfavorable events. For example loss of employment, in leading to loss of income, may result in asset sales in order to protect consumption, thus resulting in a fall in self-employment. If consumption levels fall, nutrition and health status can deteriorate, labor productivity will fall as a consequence, and further damage to employment prospects will occur. But the reverse of this is that a suitable policy intervention can set in motion a ripple of favorable effects for household welfare. These "vicious" and "virtuous" circles have two major implications for the SDA program. In the first place, they suggest that households can move from better- to worse-off states in relatively short periods, so that it is important to maintain a continuing monitoring instrument in SDA country projects. Secondly, it suggests that some policy interventions can be effective in setting households on upward "income escalators", improving their long-run economic prospects through these dynamic processes.

26. However, the welfare outcome depends on the household's behavioral response to external and internal shocks. In order to make a meaningful assessment of how shocks and adjustment programs affect welfare, models are needed which explain the decision-making process of the household, and thus predict its response to variations in the parameters of its economic environment. These models should capture the African household's dual role as both a unit of consumption and a unit of production. This allows an analysis of the interdependence of the household's production and consumption decisions.

C. The distribution of welfare within households

27. Economic processes and policies can affect household members in different ways depending on their characteristics (for example age and gender). It is important that these effects be understood. There are substantial differences between males and females in their economic
activities. Such specialization arises from the comparative advantages of the individuals in their respective tasks, or from social customs and obligations. For example, women may be precluded from engaging in certain types of employment, and this may be reinforced by discrimination against them in markets for productive assets, credit and education. Women can be constrained in either home-production or market-work by the time involved in child-bearing and tasks of child-care and household maintenance. Social custom may dictate that males will undertake only a limited amount of house-work.

Socially determined constraints on the time-allocation of women create allocative inefficiency, since the labor resources of the household are not allocated in accordance with its members' marginal productivities. Such inefficiencies may be an important source of female poverty as well as a contributor to the overall poverty of the household. The low substitutability of male and female labor-time in specific activities also reduces the ability of women to reallocate their time in accordance with changes in market and non-market opportunities. This has important effects on the welfare outcomes of adjustment, again for both women individually and for the household unit. Adjustment can also impinge differently on individuals within a household through its effect on expenditures, since some expenditure items are more important to the welfare of some individuals than others. The extent to which the individuals themselves suffer as a consequence, depends on whether the household as a whole adjusts its other expenditures to compensate, and the degree to which household members pool their incomes.

For these reasons it is desirable to undertake direct measures of the welfare of household members alongside the collection of data on the household itself. Anthropometric measures such as weight-for-height and height-for-age are indicators of the human "output" of the household's activities, and this information should be collected for all household members. The welfare of individuals can then be analyzed in relation to the household's characteristics, and through those characteristics to policy change. Such a framework is important for interventions aimed at poverty alleviation, for anthropometric data alone do not indicate the causes of health or nutrition problems. Collecting such data within a household framework allows policy-makers to assess whether the problem lies on the consumption side of the household's activities, the production side, or in intra-household transfers. The biases that are involved in taking household rather than individual income (or expenditure) in calculating poverty are difficult to determine theoretically. However, while they may affect the level of measured poverty, they are unlikely to influence its pattern across households. In considering measures of poverty, therefore, the SDA program can be justified in using household-level data so long as the main concern is with the pattern rather than the absolute level of poverty. Indices of poverty must reflect its incidence, its intensity and the degree of inequality among the poor.

The effects on households

Given this analysis of the household, consideration can be given to how meso-economic effects are likely to influence household welfare. Households will be affected as buyers and sellers in product markets, as hiring in (or out) services from labor markets, and by the economic and social infrastructural changes that are induced through destabilization and adjustment. How precisely poor households are affected obviously depends on two key sets of factors: the nature of the meso-economic changes that are induced; and the characteristics of the household — whether it is a net buyer or seller of tradable goods, which markets (official/parallel) it trades in, whether it hires in labor services or depends on its own labor in generating primary income, whether it has access to schools and health services, and whether it is well served by roads and communications, etc. An important feature of this conceptual framework is the distinction between the meso-economic effects of the pre-adjustment period of disequilibrium and those of the adjustment itself.

The pre-adjustment meso-changes can exert a powerful influence on households and on the welfare of their members. Initially, households producing non-tradables and consuming tradables are likely to gain from a period of growing macro-economic imbalances, simply because $P_n/P_t$ rises. How this affects poverty of course depends on whether poor households produce mainly non-tradables, although there is the expectation that the better-off urban households would benefit most from the appreciation in the real exchange rate. However, as the period of disequilibrium is extended, more powerful influ-
ences can come into play — especially the emergence of quantity constraints in markets and a consequent downturn in aggregate economic activity, which would eventually threaten even the welfare of those producing non-tradables. The only groups likely to gain are those households with access to scarce consumer goods (through possessing import licenses or through smuggling), and they are unlikely to be poor.

32. In many ways, the effects of the meso-economic changes arising from adjustment reverse the effects noted for the pre-adjustment changes. Using a simple model of household behavior, it can be shown that the effects of typical changes in the product and labor markets following adjustment will affect both the production and consumption decisions of households. The net effect on household welfare will depend on the consumption preferences of the household, and on whether it produces a surplus of tradable output to its own requirements. Theory predicts that households which consume mainly non-tradables and produce tradables will gain, although a critical factor here is whether they are able to switch readily their production and consumption patterns. A major change introduced by adjustment is the reduction in rationing in product markets, making “incentive” consumer goods and intermediate goods available. This would immediately benefit households whose incomes were previously constrained by the limited availability of such goods. Households who lose are those previously benefiting from the scarcity value of these goods.

33. Some additional key elements in determining how household production is affected by adjustment include the risk-averse characteristics of households in rural Africa which may reduce their output responses to relative price shifts, the access of households to credit and its terms, and their access to social and economic infrastructural services.

Concluding observations

34. There are at least two major problems in deciding on a conceptual framework under the SDA initiative. First, the policy research problem is itself a major undertaking. The analytical challenges that are faced in establishing how macro- and sector-level policies affect households and the well-being of individuals are serious and should not be underestimated. One of the major outcomes of the theory is that there are no ready answers — the problem is highly complex and can only be resolved in the last analysis at the empirical level. And, of course, the empirical problems that are raised are just as challenging.

35. The second problem arises from the heterogeneity of the Sub-Saharan African region to which this framework must apply. It must at the same time be general enough to apply to all the diverse economic and social circumstances of the region, and specific enough to be of use in guiding the policy and investigative initiatives at the country level. Because of this, it must re-emphasize that the analytical framework is not meant to be strictly applied in each and every case. For some cases, the assumptions used are a reasonable approximation, but for others, there may be a need for further refinement. The purpose is to establish a structured way of thinking about the problem. At the heart of this structure is the simple device of dividing the research task into two stages: first identifying macro-meso interactions and then dealing with meso-micro effects.

36. The most important conclusion that the theory offers (apart from indicating that the subject is inherently difficult, and that the theory is inevitably inconclusive) is that adjustment policies can set in motion changes in the economy, which have profound and pervasive effects on markets, infrastructure and households. Attempts to raise household incomes which ignore (or even run counter) to these deep-seated changes, are both misplaced and counterproductive. While the theory is of little use in analyzing the myriad changes that adjustment programs inevitably involve, it is at its most useful in uncovering these more fundamental economy-wide effects. Without it, the policy-maker would not be able to see the wood for the trees.
Empirical framework

Introduction

37. The role and importance of a national information system becomes critical when the social dimensions are integrated into structural adjustment programs. The policy-maker requires relevant and timely data in order to select the composition and sequencing of adjustment measures. Data are needed to measure the economic aggregates to modify macro-economic policy. But they are also needed to establish who are the gainers and losers as a result of the reform process; whether the distributive changes represent a temporary or permanent state; and whether the outcomes are policy-induced or the result of systemic or institutional constraints outside the domain of policy instruments. For policy and program purposes, data on various socio-economic groups are indispensable to understand the ways in which these groups are being influenced by changing economic conditions.

38. The national information systems of most African countries are not yet developed to the point of being able to provide the kinds of data required by policy-makers to formulate and systematically monitor the social dimensions of adjustment. Governments should therefore review their information services and introduce relatively more “demand-driven” statistical systems to ensure closer links between the statistical offices and data-users especially in the various ministries. One of the prerequisites for a country’s participation in the SDA program is the creation of a User’s Committee to help promote communications between planners, analysts and statistical offices. But this is only part of the expected improvement in interaction between users and producers of statistics. There also needs to be better coordination, including that between outside agencies and statistical offices; more training facilities for statisticians and a realignment of statistical priorities towards the measurement of the well-being of people.

A hierarchical information system

39. Information is required at each of the macro-, meso-, and micro-levels if policy-makers are to know what changes are affecting households over time as well as explore how these changes have occurred. It is therefore useful to view information requirements in the context of a hierarchical information system where data and empirical analysis are explicitly considered at each of the three levels. A distinction can be made between “analysis”, “constructs” and “data”. Thus, analysis can be either formal models or analytical studies. These analyses depend on empirical information and a distinction is made between the raw data sources (censuses, surveys, etc.) and the various constructs used to assemble, organize or present these data for analytical use (national accounts, tabulation, summary statistics, or indicators).

40. The hierarchical information system is therefore a way of systematically viewing the body of data currently available, identifying gaps and deficiencies, and their relationship to potential analytical tools and constructs. The system must be capable of measuring the main national aggregates (such as national product and income, the balance of payments and the various components of aggregate expenditures) and sub-aggregates (such as sectoral output and sectoral allocations of productive resources). It must also be capable of tracing how the productive activities which generate these aggregates allocate the resulting incomes to the various factors of production and on to the households which possess them. In this way, the hierarchical information system should be able to trace the process through which income flows are allocated to households of various categories.

41. Some data on macro-, meso-, and indeed, micro-level variables are already collected (though of variable quality) but a major effort in the SDA program is to improve the quality of micro- (and other meso-) level data through household and community surveys. As well as being of central use in micro-level analysis, these data can be integrated within the hierarchical information system as a whole.

42. A useful approach towards an integrated hierarchical information system is the Social Accounting Matrix (SAM), which has been extensively used to represent the full circular flow of income for an economy and to focus on distributive issues and the well-being of individuals. Such a matrix meets the above requirements, in that it traces the generation of incomes by productive activities through to the selected household groups. As a macro-economic accounting sys-
tem it is a useful organizing framework for data from different sources and is therefore a data construct in our sense. A SAM can be of any size depending on data availability and on the required detail for policy and analytical purposes. By making special efforts to choose appropriate accounts for products, factors, and institutions (including households), and deriving estimates accordingly, the SAM could embrace some particularly useful meso- and even micro-economic groups of households and other institutions. In particular the aim is to distinguish primary income generation from income transfers between institutions, each of which could be affected in different ways as a result of adjustment.

SDA data priorities

A. Macro- and meso-data needs

43. Information requirements at the macro-level include the basic macro-economic, social and demographic data necessary to service the macro-economic accounts and to derive core macro-indicators. The macro-economic accounts consist of the national accounts, public finance, balance of payments and monetary data, all of which are fundamental to the analysis of adjustment. However, core macro-indicators of social well-being are of limited use for SDA analysis. There also exist some important conceptual and practical problems to do with measurement of the macro aggregates including the definition of the scope of productive activity and the identification of the informal sector. The household surveys will augment existing information at the macro-level, especially in regard to current expenditures by households (often obtained as a residual in most African national accounts) and the activities of the informal sector.

44. Information relating to meso-level activity is sought from both existing and new data sources. Markets are not generally observable as physical entities and therefore information about how they function must be derived indirectly. Detailed information on sectoral production and, sometimes, the price of traded outputs can be obtained at the national level. Similarly, some labor market information is already collected in certain countries, but it is usually insufficient to determine the meso-micro links. New information must be obtained and the Household and Community Surveys conducted under the SDA program will provide key data about the functioning of markets and information about how adjustment has affected the availability and quality of economic and social services to households. There is an important additional problem to be tackled in relation to identifying the existence and operation of parallel markets. By their very nature, information on these might be difficult to obtain and, of course, one might expect adjustment to reduce parallel market activities overall.

B. Micro-data needs

45. Information requirements at the micro-level are almost entirely derived from the household surveys. While the ultimate interest of the SDA is in individual well-being, for survey purposes the household is to be chosen as the sampling unit, in preference to possible alternative social units, although these do have certain appeal in some instances in the African context. This does mean, however, that care must be exercised in not overlooking certain groups such as servants living in households. Likewise, due consideration should be accorded to intra-household allocations, so that analyses carried out at the household level do not mask the consequences of adjustment for individuals.

46. The classification of households by socio-economic group constitutes an essential element of data analysis at the micro-level. Apart from the obvious importance of policy targeting, household classifications should be chosen so that the groups are relatively homogenous, in terms of levels or patterns of income, expenditure and wealth, sociological criteria, or locational criteria. The overriding concern for the social dimensions of adjustment requires a clear picture of particular socio-economic groups’ vulnerability to adjustment programs and the impact of these programs on the existing patterns of poverty found in a given country.

47. From the household survey data it is necessary to build up a picture of the identifying characteristics of the poor as well as of the depth and extent of poverty defined according to some relative or absolute poverty line. The results of the poverty profile analysis lead to an identification of the target groups for policy purposes. The target groups are those socio-economic categories which contain the poor and vulnerable groups in society. The term “vulnerable” is applied to those groups whose welfare is particularly open.
to the influence of economic shocks and adjustment policies. But some of the chronic poor may have been largely bypassed by government policy prior or subsequent to adjustment, and they must also be included in the target groups. It is unlikely that a single socio-economic classification will cover all target groups but the choice of classifications will need to be established with target groups in mind. Household incomes need to be derived from the source data provided in the household survey distinguishing primary (factor) data from secondary (transfer) incomes. Household expenditures can also be obtained; they tend to be less problematic in concept and more reliably reported than incomes. These aggregates provide the basis for a range of alternative empirical measures of welfare, such as income per capita or expenditure per equivalent adult. From a chosen measure of welfare can be derived sets of poverty indices, and preferably those which are sensitive to poverty incidence, poverty intensity and the degree of inequality among the poor.

SDA household and community surveys

48. The need for a multi-subject household survey is clear and manifest both as the basis for micro-level analysis and as an ingredient in the hierarchical information system. The household survey methodologies prepared by the SDA program consist of two types, to be implemented in participating SDA countries according to individual country conditions. First, there is the Social Dimensions Integrated Survey (IS) which uses a detailed and multi-subject questionnaire. Its purpose is to provide the necessary information to investigate the complexity of the impact of adjustment on different household groups and to establish the relationship between macro-economic policies and their effect at the household level. It is to be used to investigate household behavior and household responses to policy incentives. Secondly, there is a Social Dimensions Priority Survey (PS) which is designed to facilitate a rapid collection of priority information. It is likely to be administered to a larger sample of households and will use a shorter and more limited questionnaire. The larger sample would permit, for instance, more socio-economic and target groups to be distinguished. When administered, the PS will generate data that will be used primarily for the identification of target groups.

When repeated in subsequent years it will take on a monitoring role and will measure changes over time in key socio-economic indicators. The main purposes of the PS is to provide information on "what" is occurring without necessarily concerning itself with "why". On the other hand, the role of the IS is to provide the information for more detailed diagnostic analyses.

49. The survey is multi-subject, and the topics include: size and composition of the household; education, health, and employment status of each household member; access to amenities and services; valuation of durable, productive and financial assets; productive activities both agricultural and non-farm; income, transfers and savings; food and non-food consumption and expenditures. Compared with the IS, the scope of the PS is far more restricted; the questionnaire is designed to be completed in a single interview with one household member in less than one hour. In consequence, there is an inevitable prioritization towards information which directly generates indicators of individual and household welfare.

50. The statistical capacities of countries will differ and while it is envisaged that most countries will begin by undertaking the PS, the subsequent phasing of the IS within the household survey sequence may vary according to country circumstances. In countries with a stronger statistical infrastructure, the recommendation would be for the IS to be undertaken in the second year and for PS to be then repeated as a monitoring survey in years 3 and 4. In other countries, it may be necessary to refrain from undertaking an IS for several years until the necessary statistical competence has been built up to collect, process and analyze data sets of such complexity.

51. A further element of the SDA survey program is community level data collection. This is designed to provide some key micro- and meso-level information alongside on-going institutional, sectoral and price collection surveys. The community surveys will be closely linked to the household surveys. They will involve the same enumeration teams completing community questionnaires for each primary sampling unit at the same time as the household survey is conducted.

Data analysis implications

52. The hierarchical information system and the SDA survey program are intended to feed into a policy-orientated analytical framework that
must be capable of (i) performing "counterfac-
tual" experiments by tracing what might have
occurred had an alternative set of policies been
applied; and (ii) tracing through these effects to
households. Since most models which satisfy (i)
are limited in the degree of disaggregation that
they can reasonably accommodate, they need to
be supplemented by data analyses that satisfy
(ii). Thus, the analytical strategy for techniques
to investigate macro-meso linkages, through
which counterfactual type experiments would be
feasible, together with a survey-based meso-mi-
cro analysis of household welfare.

53. Several formal macro-meso models are to
be explored. Aggregate models are attractive due
to their manageability and cross-country appli-
cability, but are unlikely to accommodate many
meso-level features. The social accounting ma-
trix (SAM) can provide a useful information base
for models ranging from the fixed-price extended
Leontief model through to the computable gen-
eral equilibrium models that have strong macro-
meso features because they deal with market-
clearing behavior. The highly disaggregated
multi-market models, which focus on market
responses and are designed to capture some of
the distributive effects of price and trade policies,
are also particularly well suited to meso-level
analyses.

54. To assist the examination of meso-micro
interactions, the SDA has prepared Analysis Plans,
which are designed to improve data analysis in
specific social sectors and other key areas of so-
cial dimensions concern to policy makers. Al-
though Analysis Plans have been prepared they
are merely guidelines and may not be applicable
in every SDA participating country. This will
depend on individual country circumstances and
requirements.
Policy framework

Strategic Issues

55. Policy interventions concerned with the social dimensions of adjustment must recognize the twin problems of poverty and vulnerability. The former concerns the level of income (or expenditure) of a household in relation to some standard, while the latter relates to the influence of external shocks on the household and its ability to cope with them in avoiding serious welfare loss. Combining these two criteria permits the identification of the broad domains of SDA concern:

- The chronic poor whose situation is caused by multiple deprivations, such as low productivity due to poor health and nutrition, poor access to productive assets, etc. Their poverty is deep-rooted, existing before the recent deterioration in economic circumstances and the implementation of adjustment programs. This group includes the ultra poor or destitute. Some are vulnerable to recession and adjustment-related shocks, which may have increased their poverty further. Others in this group, however, may be relatively unaffected, while yet others may in fact benefit from adjustment.

- The new poor who are above the poverty line prior to the shock and adjustment measures, but have fallen into poverty as a result;

- Other vulnerable groups who remain above the poverty line but are severely affected by adjustment and therefore merit policy consideration.

56. SDA concern is not just with those negatively affected by adjustment. Some of the chronic poor may have been largely bypassed during the recession or by government policy prior to adjustment, and they may be relatively unaffected thus far by recent policy changes. Yet this certainly does not preclude them from being an important focus of adjustment policy design. In fact, adjustment provides an opportunity to reduce chronic poverty. So households which are poor or vulnerable, or both, form the basis of the policy domain for the SDA initiative.

57. For operational purposes these categories need to be defined further through the use of socio-economic groups. From an analytical perspective, various groupings are possible, the objective being that the influences of recession and adjustment will be observed to affect in similar ways most households in a particular socio-economic group. Using the criteria of poverty and vulnerability permits a further refinement in the classification of households—going from broader socio-economic groups to more specific target groups. These are defined as those households whose poverty and/or vulnerability call for policy attention. Some target groups may be a subset of a socio-economic group, while others may cut across such groups (female-headed households, for example). The SDA information system facilitates the selection of socio-economic and target groups in the light of national priorities. Target groups change over time as new rounds of policy reforms occur, and the information system permits new problems to be identified and new target groups to be selected.

58. The key policy problem is how to assist target groups without at the same time causing distortions in economic mechanisms. If the latter are severe, neither economic recovery nor the poor will be helped. The foundations of sustainable growth will never be secured if Africa’s human capital is allowed to depreciate. The goal is therefore adjustment with poverty reduction, not adjustment or poverty reduction.

59. That there are gainers and losers from policy reforms is an inescapable part of the adjustment process in its early stages, since the structure of output and expenditures undergoes substantial change. But who gains, and who loses, is critical. A short-term consumption loss by the wealthy should not require policy intervention, especially if they more than recoup their loss later under adjustment-led growth. But for Africa’s poor, a loss can be disastrous, because years of hardship have left them with few coping strategies—they are both poor and vulnerable. Even short-term losses can prove very serious for such groups. Their margins above subsistence are often so small, so that a loss in current income necessitates the sale of productive assets to finance current consumption, and therefore reduces future income potential. Even if adjustment implies only a slow-down in the improvement of their circumstances, it is unacceptable because it delays their escape from poverty.

60. The review of policy reforms below suggests that appropriate adjustment design can contribute, not just to halting the spread of poverty,
but to improving the situation of the poor. In designing poverty-sensitive adjustment, it is important that modifications to policy not undermine the attainment of efficiency, growth and the reduction of macro-imbalance. Persistence of the latter does not favor the poor: they are critically affected by high domestic inflation, and by cuts in basic imports induced by inadequate export performance. Policy reform can sometimes be modified to improve the benefits to the poor, with little or no trade-off for adjustment’s macro/meso objectives. And sometimes raising the equity dimension of a policy reform also improves efficiency. But some policy reforms harm the poor, more often in the short run rather than long run. In such cases, the best procedure is not to change the policy itself, but to implement complementary measures which can turn potential losses into gains. The efficiency gains from undertaking a needed policy reform increase society’s resources. Using just some of the gain to help the poor delivers larger benefits to them than not undertaking the policy change at all.

61. The SDA program is one contribution to the task of eliminating poverty in Africa, an objective shared by development programs being implemented under many auspices. Its special contribution is to assist in the design of adjustment programs to maximize the net benefits to the poor. In so doing it will also raise the returns to other poverty initiatives. And through projects of its own, or in collaboration with others, the SDA can address some of the social problems of adjustment, which are not currently being met by other initiatives.

Designing poverty-sensitive adjustment programs

A. Overall fiscal and monetary balance

62. Macroeconomic policy under adjustment seeks to achieve a sustainable external balance and an acceptable rate of price inflation. In manipulating its policy instruments to achieve internal and external balance, policy-makers face some basic accounting constraints. All successful adjustment programs — including those which give priority to the social dimensions — must respect these basic macro-accounts.

63. A critical issue for all governments implementing adjustment programs (and especially for those concerned with its social dimensions) is how much room for maneuver they have in maintaining fiscal deficits, within the resource constraints that they face. This very much depends on how governments are able to finance their deficits: by raising funds through printing money (i.e. through "seignorage"); by borrowing from abroad; and by borrowing domestically. Each of these methods of financing the deficit creates problems with the macro-balances, which must be taken into consideration by policy-makers. Printing more money can finance a budget deficit, but only at the expense of higher inflation. Foreign borrowing is constrained by the capacity of the country to bear the increased debt burden and its international credit rating. Finally, borrowing from domestic sources can lead to higher interest rates and reduced private investment, thus contradicting the growth objectives of governments.

64. If financing the public-sector deficit through reducing the private-sector deficit is not feasible, most African governments must finance their deficits either through external borrowing or through printing money. And since there are macro-resource constraints which limit these, governments are obliged to reduce the fiscal deficit during periods of adjustment, simply to restore the macro-balances. This obviously reduces their room for maneuver to protect various components of expenditure which are concerned with the social dimensions (such as expenditures on health and education). But under a program of structural adjustment some room for maneuver can be created, relaxing the macro-economic constraints and permitting smaller reductions in the fiscal deficit. There are three principal ways in which the macro-resource constraints can be relaxed though structural adjustment programs: by increasing economic growth; by encouraging structural changes in the composition of output; and by increasing the availability of external financing. Each of these is discussed in turn.

65. A more rapid rate of economic growth generally increases the budget deficit a government can sustain without violating the basic macro-balances. In the first place, the government can raise resources to finance a budget deficit through monetary expansion without causing inflation. This is because growth increases the demand for money balances by the public, so that some monetary expansion will not be inflationary. Economic growth also releases the macro-constraints on financing a fiscal deficit through
borrowing, by relaxing the debt-burden constraint. If the interest rate payable on accumulated debt is greater than the rate of economic growth, it will not be possible for governments to borrow to finance a fiscal deficit without causing serious debt problems, since in each passing year, the debt/GNP ratio will inexorably rise. But if the rate of growth exceeds the interest rate, some permanent fiscal deficit can be financed through borrowing, with the debt/GNP ratio falling over time. So more rapid growth will permit extra room for maneuver for governments to finance a fiscal deficit through both seignorage and borrowing, whilst at the same time maintaining macro-balances.

66. Even in the absence of growth, the reduction in aggregate demand required to restore the macro-balances is greater if there is no output and expenditure switching in the economy. These structural changes in the composition of output (as opposed to its overall rate of growth) can therefore give governments more flexibility in adjusting the fiscal deficit. The transfer of resources from non-tradables into tradables will generally mean that less aggregate demand contraction is required to restore external balance. Finally, the availability of increased finance that is often forthcoming as a result of the implementation of structural adjustment programs, can play a major part in giving governments added flexibility in adjusting the fiscal deficit.

67. While much can be done in the design of adjustment to improve poverty outcomes, such redesign is still limited at present due to lack of empirical experience with a number of issues. First, little is known about what combination of policy instruments achieves macro-balance, efficiency and growth objectives, while at the same time giving the best poverty outcome. For example, it is uncertain whether increasing revenue to close the fiscal deficit, rather than decreasing expenditure, will worsen or improve non-tradable employment. Second, from a poverty perspective, there is little understanding of the best sequencing of policy changes. In order to minimize increases in consumer prices, for example, should devaluation precede or follow a reduction of the fiscal deficit? Third, the influence of the time-scale of monetary and fiscal restraint on poverty outcomes is not well understood. For example, what time-scale ensures that businessmen act in ways that minimize transitional employment costs? Finally, the coordination of macro instruments with market liberalizations and investments in structural change needs to be better understood. For instance, how should monetary restraint be coordinated with the phasing out of price controls, to ensure that inflationary pressures in food markets are minimized?

68. Experience to date suggests that where market rigidities exist, and where expectations are important, different policy-mixes attain the same macro-objectives with different outcomes for output, employment and incomes. But, the design of poverty-sensitive adjustment programs requires a more thorough understanding of the ways in which the above aspects of macro-policy design interact to produce different poverty effects.

69. Accordingly, tools must be employed which identify the poverty outcomes of macro-scenarios. Each scenario should indicate whether aggregate poverty is expected to rise or fall under the particular policy-mix, which poverty groups are liable to gain or lose, and the orders of magnitude involved. Each scenario can further simulate outcomes under different assumptions about market rigidities, the speed at which such rigidities can be reduced under adjustment, and different assumptions about external variables (financing, commodity prices, etc.). In this way, an understanding is gained of how sensitive poverty outcomes are to variations in assumptions about domestic and external variables.

B. Public finance

70. Once the target level for the budget deficit is set, the next step is to review both public expenditures and public revenues for their poverty effects. First, a set of core expenditures benefiting the poor must be determined. These consist of the programs which are most cost-effective in reaching the poor, and whose real levels of expenditure must be maintained or raised. At the stage of planning and priority setting, all expenditure categories should be viewed as adjustable in order to make room for core items. The balance between central administration and local capabilities to deliver key programs should be reviewed.

71. Two broad categories of core expenditure can be identified: economic expenditures which raise the income-earning potential of poor groups; and social expenditures which enhance their human capital. Economic expenditures directed
at raising the productivity of the poor include agricultural research and extension services, small irrigation schemes, feeder roads, credit and marketing services, and so on.

72. A prerequisite for any review of public expenditures is the identification of the main beneficiaries from each component of expenditure. This is one of the key purposes served by the SDA information system. On the basis of this understanding, changes can be applied to ensure that the poorer groups of beneficiaries are protected in the short run. Over the medium term, public expenditure restructuring should increase the cost-effectiveness of service delivery to poorer groups.

73. The rehabilitation of primary health and primary education is critical to protecting social expenditures. An emphasis on rural and urban clinics serving low-income groups, basic drugs, immunization, the screening of children and mothers for nutrition and health programs, and the provision of safe water and improved sanitation, are all health priorities. Encouraging community-based organizations and applying user charges to better-off groups are important in saving resources for targeted public provisions. Likewise, the priority in education is to renew the growth of primary school enrollments among poor children, and to improve the quality of education by securing supplies of basic educational materials. The application of user charges in secondary and tertiary education to better-off groups is important in releasing resources for primary education. Replacing cost-ineffective food subsidies by targeted food-interventions is complementary to the task of reorientating social provisions. Combined nutrition and health programs are one means to better targeting, and measures of selective subsidization should be explored.

74. Given the need to improve efficiency at all levels of public provision, a phased approach to public expenditure reform is essential. In the short run, it is matter of urgency to maintain and even raise expenditures on the core programs identified above. While efficiency improvements can be actively sought, most opportunities for improving program cost-effectiveness for the poor will begin in the medium term. External finance and technical assistance will then be on stream, and planning/management capabilities will be improving. It is at this stage that the rationalization of programs can be accelerated.

C. Monetary and financial policy

75. Monetary targets are one of the key instruments for attaining macro-balance. While their primary objective must be a reduction in inflation and the external deficit, there are opportunities in their application to favor borrowers among the poor. The application of credit ceilings on the public sector in favor of credit to the private sector may in itself push more funds towards the poor. But in addition, within overall credit ceilings more priority can be attached to loans to smallholder agriculture and micro-enterprises.

76. There is much evidence that poor producers can use more credit profitably, but that they are disadvantaged, firstly by government interventions in credit markets which favor large borrowers, and secondly by a lack of collateral which limits their access to banks. The former problem is reduced by financial liberalization which raises incentives to lend to smaller borrowers. Credit to the poor is, in most cases, best improved by group-lending schemes, which have a high success rate, especially in reaching women. Such schemes can also be broadened into savings and loans associations, giving poor people access to the interest income offered by commercial banks. Group lending has a low default rate, which is crucial, given the need to restore soundness to many national financial institutions.

D. Exchange rate and trade policies

77. Currency devaluation is the third major instrument of macro-policy. It will affect poor households in three ways: as producers of tradables and non-tradables; as wage earners; and as consumers of tradables and non-tradables. Many poor households in Africa are engaged in producing tradables, so there is every reason to believe that they will benefit from a devaluation. It may be, however, that the price signals from a devaluation never reach the household producers because of the imperfect functioning of product markets. If the market is monopsonistic, traders may not pass on price increases to the farm gate. To enhance the benefits of a devaluation to such households, complementary meso-level policies may be required in order to improve the functioning of markets and to ensure that poor farmers benefit. The improvement of the economic infrastructure will also enhance any beneficial effects of devaluation in providing better
access to favored product markets. On the other hand, if poor households produce non-tradables (and especially if they use imported intermediate inputs such as fertilizers), they will be adversely affected by devaluation. The key to raising their incomes lies in creating alternative production patterns which may require complementary policies, such as targeted extension services that aim to encourage farmers to adjust production, or credit services that may be essential if farmers are to move into the market-oriented production of tradables.

78. As wage earners, poor households will be affected by a devaluation, depending on the sector in which they work and their consumption propensities. The most likely groups to experience a real-wage cut following a devaluation are those on fixed incomes in the formal sector, but these are unlikely to be poor. Although the change in real wages for the poor is uncertain, the short-run effects of devaluation on employment are more likely to be adverse — mainly because it takes time for resources (especially capital) to switch into the tradables sector. Clearly credit and investment policy can play a vital role in encouraging a smooth and rapid resource reallocation, thus minimizing the adverse employment effects, which are likely to hurt the poor most. A key question is whether poverty outcomes differ when a specific exchange rate is reached through a rapid or a gradual devaluation. The presence of supply-side rigidities and uncertain expectations in the private sector may combine to make fast devaluations more costly in terms of employment and incomes than a more gradual approach.

79. Finally, devaluation affects the poor as consumers. Through raising official food prices, it can benefit the rural poor but tends to hurt the urban poor, because of the differences in their employment and expenditure patterns. It is crucial that a macro-policy (such as devaluation) which raises food prices be coordinated with targeted food subsidies in order to dampen the effect on poor groups.

80. Liberalizing import restrictions improves efficiency and reduces general poverty through tilting incentives back in favor of food and export agriculture, and by promoting labor-intensive industrialization. Since liberalization changes relative prices, similar considerations apply in tracing its poverty implications to those discussed for devaluation. It affects the poor as producers, consumers and wage earners, and the net effect depends on the economic activities of poor households. Similarly, complementary policies (such as improving the functioning of product and credit markets, rural economic infrastructure, targeted extension services, etc.) can enhance favorable effects for the poor, and avoid any adverse repercussions.

81. Import restrictions are also an inefficient and inequitable means of addressing the balance of payments difficulties of African countries. They are generally less favorable to the poor than devaluations in the case of chronic balance of payments difficulties. However, reducing protection can cause employment problems in the protected sectors, and there is sometimes a case for altering the speed of liberalization when rigidities in capital and labor markets exist. Changing quotas into tariffs, and sequencing tariff reduction over time also reduces transitory social costs.

E. Employment policies

82. While micro-enterprise and modern wage-employment will take an increasing share of total employment over the long term, agricultural self employment will remain the source of income for most households over the next decade. In the short term, the contraction of inefficient public and private employment might imply some labor transfer to agricultural and related employment, as well as to employment in urban-based private enterprises. Shifting the domestic terms of trade back in favor of agriculture can contribute to both efficiency and equity. The rates of return of investments by small farmers are raised by higher output prices, and by more efficient marketing for both output and inputs. The increase in prices can have adverse effects on food-deficit households, even in rural areas. Rather than resisting an increase in controlled food prices to market levels because of poor consumers, the best policy is to enable them to grow more food, and provide targeted nutritional assistance in the interim.

83. The shift in output towards growth based on exports and efficient import substitutes (such as foods and industries without excessive protection) should promote a more labor-intensive pattern of production than in the past. The employment gains from this policy (in terms of raised real wages and higher levels of employment) are likely to be reaped over the medium to long term. In the short run, employment prospects may not
be so beneficial. It is likely that real wages will fall, especially in the formal sector, and there may be increases in unemployment, mainly of a frictional nature, but also arising from factor market imperfections. Policies to ease these short-run adverse effects are of two broad types: those which improve the operation of labor markets, through, for example, raising the mobility of labor, providing training and re-employment schemes; and those which provide emergency employment, frequently in public works.

The SDA policy agenda for country activities

84. The above discussion has identified a potential for redesigning adjustment programs in order to enhance their beneficial effects on the poor and vulnerable groups in society. The implications of this for SDA country activities are now reviewed. What can be achieved at the country level obviously depends on the circumstances of the country concerned.

A. Improved macro- and sectoral policy management

85. One of the lessons of recent adjustment experiences is that the available data and policy tools have been insufficient to incorporate effectively the social dimensions into macro-policy formulation. The policy analytic requirements for any systematic understanding of the social effects of macro-policy are basically two-fold. First, the analysis must have an economy-wide perspective if it is to properly track the application of macro instruments, and even to fully understand the effects of sectoral policies. Secondly, the techniques must be able to trace changes in household living standards over time, particularly changes in income and expenditure.

86. Analytical techniques which identify macro-meso links are already well established, such as computable general equilibrium models. These techniques can serve three critical purposes. First, they permit a timely and ex ante assessment of the macro-, sectoral and household level ramifications of macro-policies, involving counter-factual experiments. Secondly, they allow explicit social objectives to be built into the design of macro-economic policy packages. And finally, they indicate whether the adverse effects of these policies are inescapable, so that, where feasible, appropriate mitigating actions can be taken over both the short and medium term. Clearly, the use of such methods is not feasible in all countries, since they are very data intensive and require technical skills that are not always available. In such countries, simpler and suitably modified models may be applied.

87. Adjustment programs generally involve major reforms of important economic and social sectors, many of which can have profound effects on poor and vulnerable socio-economic groups. Therefore attention to macro issues alone will not be sufficient to ensure that social concerns are fully understood or incorporated into the overall policy-making framework. A clearly delineated focus on sectoral and meso issues is likewise necessary to complement macro-level analysis. A number of Analysis Plans have been prepared under the SDA initiative, designed to provide policy-makers and planners at the country level with guidelines and methodologies for determining how adjustment policies affect key sectors. These cover Poverty Profiles, Employment and Earnings, Smallholder Farmers, Food Security and Nutrition, Education, Health and the Role of Women.

88. As an organizing framework to deal with the public expenditure issue, the SDA program is exploring with participating countries the possibility of using core public expenditure budgeting procedures to protect the poor and vulnerable. The idea behind core public expenditures is that once a government has defined the kinds of poverty-oriented services it wants to protect, specific budgeting procedures are introduced as a means of translating these priorities into public expenditure decisions. The SDA recognizes that a great deal of additional work needs to be undertaken in the complex area of public finance management. Reconciling expenditure targets with the need to protect social expenditures for target groups is now the key challenge.

B. Social action programs

89. Social action programs can be divided into two broad types of intervention: those designed to protect or mitigate the effects of adjustment on specific target groups; and those aimed at fostering greater participation by poor and vulnerable groups in the process of socio-economic development. The first is concerned with compensation, i.e., protecting or restoring the welfare and consumption levels of the target group. The second is directed towards promoting the productive ca-
pacity and economic integration of a particular socio-economic group. Social interventions have been formulated or are now under consideration that include not only population and health, education, and food security, but also housing, urban and community infrastructure, training and re-employment for redundant civil servants, vocational training, and small enterprise development.

90. The problems associated with low economic activity and poverty clearly pre-date the advent of structural adjustment lending. These problems are not the result of adjustment, but they do exist alongside the adjustment process with consequences that require attention. The conceptual point of departure, therefore, is that social action programs designed to foster productive capacity seek to overcome the remaining policy and institutional distortions which thwart economic participation by the poor, distortions which may have arisen well before adjustment was initiated, and which might prevent the achievement of self-sustained growth.

C. Strengthened national information systems

91. A country's national information system obviously has a major impact on the choice of analytical tools used by planners and policy-makers in analyzing the linkage between macro- and sectoral policies on the one hand and outcomes at the household level on the other. For the purposes of the SDA program, a hierarchical information system is required, in which data at the macro-, meso- and micro-levels are properly integrated as a first step in policy analysis. The pivotal role played by household data for policy analysis at all levels explains why the SDA has placed considerable emphasis on strengthening countries' household survey capabilities. Improved household data are particularly needed for policy analysis, although they also serve a useful, if not essential, role in guiding social action programs and institutional development. The SDA is seeking to assist participating countries in data collection and survey methodologies, through the design of a prototype Integrated Survey and a prototype Priority Survey at the household and community levels.

D. Institutional development and training

92. The long-term success of the SDA program will ultimately be measured by its ability to help participating countries develop their own capacity to identify the poor and vulnerable during periods of adjustment, and to respond with appropriate policy and program interventions. As the process of economy-wide reform deepens, the need for enhanced government capacity to implement and monitor programs increases. Poverty-conscious public finance reform, for example, places heavy demands on analysts, managers, and support structures. The SDA, therefore, seeks to build government capacity to institutionalize a social dimensions framework into day-to-day planning at the country level.

93. Training activities (at the national and regional levels) are of key importance in this context. Their objective is to increase the level of expertise of national technicians and professionals involved in the SDA initiative. The areas of training under the program are (i) data collection, data management and exploratory data analysis; (ii) sectoral policy analysis and macro modelling; and (iii) planning of social policies and programs to protect or compensate vulnerable groups and raise their participation in economic recovery and growth. The target groups of SDA training activities include civil servants in central and line ministries and professionals in the non-governmental sector associated with country-level project activities.
Part I

Conceptual framework
Introduction

1.1 There are at least two important reasons for focusing on the social dimensions of adjustment in Africa at the present time. First, it is now some sixteen years since the first oil shock of the 1970s, and since then, the developing countries of the region have experienced economic turbulence, shocks and disequilibria. After the commodity-price boom of the mid-1970s, most countries have faced a persistent decline in their terms of trade, caused in part by a general OECD recession. Interest-rate hikes have compounded their debt problems, whilst internal shocks (notably the sustained drought of the early 1980s) have considerably weakened their capacity to deal with macro-imbalances. In all of this, the poorer groups in African societies have suffered, and with little margin above subsistence, many of them have found themselves with little room for maneuver.

1.2 Secondly, with a return to a longer-term policy perspective, greater emphasis is now being given to restoring sustainable growth in these countries. Given this perspective, it is now both feasible and essential to give more careful thought to the social dimensions of adjustment: to consider how poorer groups in society can be encouraged to participate in the recovery; to examine how the health and education of the societies is likely to be affected; to investigate the effects on food security and nutrition; in short, to trace how structural adjustment policies will ultimately affect the well-being of the populations involved. The social dimension, however, is not only important for equity: unless human capital is protected, sustainable economic growth in many African countries will itself be threatened.

The meaning of adjustment

1.3 We begin by clarifying what is meant by adjustment and adjustment policy in developing countries, a subject on which the literature is not always in agreement. The terms “adjustment”, “structural adjustment” and “stabilization” are commonplace. Yet the use of these terms is often imprecise and inconsistent. Adjustment is best considered as the implementation of comprehensive adjustments in macro- and micro-policies both to respond to various shocks, and to rectify inappropriate past policies that have hampered economic performance, the fundamental objective of which is to restore sustainable economic growth. The former include both environmental shocks, such as adverse weather, and external shocks, for example terms of trade declines. These shocks have adversely affected the whole range of economic policy objectives, including the balance of payments, price stability, full employment, economic growth, the protection of the environment, and equity/poverty reduction. Shocks, whether internal or external, affect all policy objectives, and not simply the balance of payments and price stability, which is the traditional focus of concern. We are here concerned with how the adjustment programs have affected the objective of poverty alleviation and the wider social objectives of governments.
1.4 A useful summary of the "language of adjustment" is to be found in World Bank (1988a: 23), which distinguishes between:

- **stabilization**: policies (generally relying on demand management) to achieve sustainable fiscal and balance of payments current account deficits, and to reduce the rate of price inflation;
- **structural adjustment**: reforms of policies and institutions covering micro-economic (such as taxes and tariffs), macro-economic (fiscal policy) and institutional interventions; these changes are designed to improve resource allocation, increase economic efficiency, expand growth potential and increase resilience to shocks;
- **adjustment**: policies to achieve internal and external balance, and changes in the structure of incentives and institutions, or both; where the emphasis is on the former, it can be identified as stabilization, and where on the latter, as structural adjustment;
- **structural adjustment lending**: World Bank lending that supports structural adjustment; this generally provides import financing and is relatively quick disbursing; it is possible that some elements of a structural adjustment lending will have stabilizing effects (for example, reducing the fiscal deficit);
- **sector adjustment lending**: World Bank lending in a sector, focusing on institutional and micro-economic distortions; this is also usually quick dispersing.

1.5 The distinction between stabilization on the one hand and structural adjustment on the other should be regarded as two types of adjustment response by African governments. In restoring internal and external equilibria, stabilization is intended to re-align domestic absorption with domestic supply, whereas structural adjustment is designed to change the equilibrium configuration itself (Buiter, 1986).

The policy problem

1.6 The relation between structural adjustment and poverty can be analyzed from two broad perspectives. It can refer to the "social" or "transitional" costs that are incurred as the economy is moved from one time path to another. On the other hand, with a longer-term perspective, the "steady-state" effects of structural adjustment on poverty can be assessed. The former deals with the costs incurred by the various socio-economic groups whilst the regime of controls is dismantled, and new policy instruments applied. The latter assesses the poverty effects as the economy assumes its new growth path. The underlying philosophy of the SDA program is that, once this longer-term perspective is taken, the objectives of poverty alleviation and structural adjustment need not be in conflict. The challenge for the policy-makers is to identify that set of adjustment policies which will induce the participation of the poor in the process of recovery and growth. This essentially implies that an *ex ante* approach is to be preferred, whereby policy interventions which enhance social dimensions are identified as much as possible before a structural adjustment program is applied — that is at the policy-design stage. The objectives of the SDA program are as much concerned with the long-run effects as with the transitional costs. The study component of the program will trace changes in the primary incomes of the poor (that are incomes generated by both employment and self-employment) as well as with secondary incomes (involving transfers of these payments). The latter include not only transfers effected by the state, but also inter-household transfers (for example urban-rural remittances).

1.7 Adjustment programs are conceived primarily in terms of their economy-wide effects — to achieve macro-economic targets. Many of the policy instruments have an essentially macro-economic profile — exchange rate policy, fiscal and monetary policy, producer prices and so on. The principal problem is to establish the effects of these policies on households, which interact in varying degrees with the economy at large. As a basis for policy appraisal, the SDA program must establish analytically the links between the macro-economy on the one hand and the micro-economy of households and enterprises on the other. This link between the macro and the micro, termed the "meso", comprises the following key elements:

- **Markets**, and other resource-allocative mechanisms, are the main links between the macro-economy and individual households. These include product and factor markets, both official and parallel markets. Adjustment will alter the market conditions faced by households and enterprises through changing relative prices or the quantities traded in the markets. It might also change the characteristics of marketing institutions, and thereby influence the way in which market signals and opportunities are transmitted to households.
Economic infrastructure is a crucial part of the meso-economy in Sub-Saharan Africa. Its provisions are directly determined by macro-economic policy, including public expenditures on physical infrastructure and support services. These can have a noticeable effect on the primary incomes generated in the micro-economy. In many cases the effects of market changes on the incomes of individual households will be conditioned by economic infrastructure. We include here the provision of support services (such as agricultural extension services) which influence the generation of primary incomes by households.

Social infrastructure, consisting of health, education, nutrition support, and other transfers, affects the returns households obtain through market opportunities. These services also have direct effects on household welfare, especially in the case of health services.

1.8 The objective, therefore, is to establish how the macro-economic processes initiated under adjustment programs affect households, which requires an empirical understanding of the meso-economic linkages. Conceptually, the SDA faces two major research challenges. First it must establish the main links between events in the macro-economy (notably internal and external shocks and the consequent adjustment programs) and the meso-economy, the latter determining the intervening variables which communicate these changes to the households. Secondly, it must establish in what ways these intervening meso-economic variables affect individuals and households in both the short run (during which households do not respond to the meso-economic changes) and the longer run (after allowing for various household responses).

An outline of Part I

1.9 The material in this part is organized very much along the lines of the logic we have just proposed. We begin by examining the meso-economic effects of destabilization (Chapter 2) and adjustment (Chapter 3), on the basis of which the effects on households will be assessed. Chapter 4 then reviews the determinants of household welfare and the nature of the household economy. Chapter 5 brings the various threads together by assessing how the meso-economic outcomes are likely to influence household welfare. Finally, some concluding observations are made in Chapter 6.
Macro-economic disequilibria and their impact

Introduction

2.1 We turn first to consider the macro-economy, and specifically the economic imbalances that have occasioned the whole adjustment process in African countries. Our objective is to explain how the various sources of macro-economic imbalance might affect the "real" economies of Africa, and (later in Chapter 5) how these changes are likely to be distributed across households. Much of the literature on adjustment and poverty ignores the distributive effects of the period of disequilibrium prior to the implementation of adjustment policies. Quite apart from the fact that the SDA program may be concerned with changes in poverty during pre-adjustment periods, the effects of the adjustment on the incomes of various groups cannot properly be explained without reference to how they fared during the disequilibrium phase. Understanding how these economies are destabilized, and the effects of this on households, is therefore essential for the SDA program, if observed changes in African poverty are to be at all understood.

The causes of macro-economic disequilibria

2.2 In the 1980s African countries have experienced large current account deficits, high inflation rates and low growth. Indeed, in many countries these problems first emerged in the 1970s. Balance of payments problems across the region are the most immediate sign of economic difficulty since, in highly open economies, the external position is crucial to overall economic performance. But all of these difficulties are visible symptoms of underlying disequilibria in the operation of their economies. In many cases, these problems have arisen from inappropriate policies (World Bank, 1984: 37, Zulu and Nsouli, 1985: 1) consisting of:

- over-expansionary fiscal and monetary policies, in turn associated with narrow tax bases and the poor performance of public enterprises;
- and domestic pricing policies biased against agriculture, especially with regard to producer prices, frequently underpinned by overvalued currencies.

2.3 In addition African economies have suffered two types of shock:

- external shocks, including higher oil prices, lower prices for primary commodities and increases in the real interest rate on commercial debts;
- and environmental shocks resulting from an increased variability in rainfall patterns.

2.4 These four sets of factors have contributed to economic distress in almost all African countries, although their relative importance varies across the region, and for individual countries at different points in time. Clearly, these movements in the terms of trade and the domestic economic strategy are not unrelated. Buoyant commodity prices for many countries in the mid to late 1970s raised expectations about resource availability which were not in the event realized.
Thus the decline in the terms of trade in the 1980s was in part the cause of over-expansionary fiscal policy in many countries, since the latter was based on false expectations of future price movements (as well as national and political ambition).

2.5 In fact, the region's net barter terms of trade fell sharply in the 1980s, but the decline was from historically high levels in 1980-81. The worst affected have been the IDA-eligible low-income countries of the region. They suffered a sharp decline in their terms of trade through the 1970s (mainly as a result of the oil-price hikes), and although the 1980s have brought a measure of stability for them, their terms of trade remain lower than in the past. Middle-income oil-importers enjoyed a rapid rise in their terms of trade in the 1970s, followed by a general decline in the 1980s. Although commercial borrowing cushioned these countries initially, the rapid decline in financial availability has meant that more fundamental policy adjustments have had to be made (see World Bank/UNDP, 1989).

Policy sequences in Africa

2.6 We have seen that the causes of economic difficulties in Africa involve a combination of domestic policy orientation and multiple shocks. Governments have varied in their policy responses. But while recent events have been complex, there are basically four courses of action that governments take to deal with balance of payments problems:

- finance the current account deficit through obtaining additional external capital inflows;
- reduce the deficit to the level of available external capital inflows through tightening capital and trade restrictions;
- undertake macro-economic stabilization policies to restore internal and external balances, mainly through fast-acting restrictive monetary and fiscal policies;
- implement structural adjustment policies at both macro- and micro-economic levels, involving market and trade liberalization and institutional policy reforms.

2.7 Under the terms of the definitions introduced above, the latter two are adjustment strategies. Each of these strategies has in turn implications for the other main targets of macro-economic policy — namely the inflation rate and the growth rate. In addition each has ramifications for employment and income distribution, and for the political economy within which governments operate. Their preferences affect the weight assigned to each of these policy-objectives in the final choice of strategy. At the same time governments operate within constraints given by the structures of both the domestic economy and the international economy. These, too, affect the ranking of policy objectives.

2.8 The first two strategies — financing and exchange controls — are often viewed as alternatives to each other and to the third strategy, adjustment. However, each of the first two strategies contains inherent weaknesses which make them incapable of producing solutions to the kinds of problems experienced by African countries over the last decade. In fact they only appear to be alternatives to adjustment in the early stages of macro-economic difficulty. But for various reasons financing followed by exchange controls is often chosen as the policy response in the early stages. Only later is serious adjustment undertaken. Many African countries have taken up the three strategies in sequence: first additional external finance is sought, then exchange controls are tightened, and then concerted adjustment is implemented.

2.9 Obviously this is a stylized picture of the process that countries go through. In particular the financing and import-compression strategies often overlap. In Sub-Saharan Africa the access of most non-oil producing countries to international commercial finance has been limited when compared to Asia and Latin America. Most low-income African countries reached the limits of international borrowing early on in their present difficulties, and therefore quickly resorted to intensifying exchange controls. Moreover, although governments have sometimes applied adjustment measures in the early stages, these have often taken secondary place to seeking finance and intensifying exchange controls. Thus a devaluation may take place, but often this has been of insufficient size relative to the scale of the currency's overvaluation. In addition, it is generally not coordinated with sufficient monetary restraint, so that the real exchange rate resumes its upward trend after a while because domestic inflation grows ahead of the world inflation rate. Examples of African countries that have taken action quickly after an external shock are relatively few. So while a stylized picture has been presented, it approximates the actual path that African gov-
2.10 A further complication is that a number of countries have started along the path, but have then doubled-back. They have gone through the sequence from financing to import restriction to adjustment, but have then abandoned adjustment and reverted back to earlier strategies. This has frequently been related to changes of government, for example those which occurred in Uganda during the 1980s, and in Ghana during the 1970s. Temporary windfalls have also led to the relaxation of adjustment efforts begun in an earlier period — for example the coffee price boom in the mid-1970s contributed to the relaxation of the adjustment efforts made by coffee growing countries such as Kenya after the first oil price shock. The boom in the copper price in the same period delayed Zambia’s adjustment to the unfavorable long-term trend in the world copper price (World Bank, 1981: 29).

2.11 In addition the history of events over the last decade is not one of African countries having to adjust to a one-off shock only. In the 1980s African countries have found their economies shocked from both the import side (including sharp increases in the prices of imported energy, intermediate and final goods) and the export side (lower commodity prices). Aside from these external shocks, many have suffered internal, environmental shocks to their agricultural sectors, often occurring simultaneously with the external shocks. Adjustments begun to deal with the first round of shocks have had to be extended and widened to deal with these new shocks. Consequently macro-economic targets which would have shown improvement given the measures applied, have sometimes shown little improvement because of fresh deterioration in the world economy or new droughts. Given the structure of African economies, delayed responses to the implementation of adjustment policies have been inevitable, so that a time-lag exists between the start of a vigorous adjustment program and the realization of all its objectives. Finally, although large groups of countries in Africa have suffered from similar shocks at the same point in time (for example, the non-oil producers in 1978-80), others (the oil producers) benefited during the same period. The gainers and losers were reversed after the oil price began to fall back in the mid-1980s, and countries such as Nigeria are now having to implement adjustment programs.

### An analytical framework

2.12 Our concern in this section is to trace analytically how these destabilizing factors might influence the real economies of the region, particularly the meso-economies. In Chapter 5 below, we explore how these meso-economic changes affect households. The approach adopted here is to explain macro-meso economic processes (at least initially) by using the standard international trade or “orthodox” model based on the Meade-Salter-Swan or “dependent-economy” model. This has proved both popular and useful in analyzing the real economy implications of macro-economic and trade policy in small open-economies (see for example Dornbusch, 1980, Lal, 1984, 1986, 1988, and Corden, 1985 - and for applications to African countries, see Collier, 1988, Collier and Lal, 1986, Collier et al, 1986 and Devarajan and de Melo 1987). We use this model to explore some of the main consequences of destabilization and, in Chapter 3 to trace the effects of macro-economic adjustment.

2.13 The framework that we present here has two features which bear mention at the outset. First, it assumes initially that the economies are at full employment, and that there is sufficient wage/pric flexibility to maintain this status. It is a debatable point as to whether this assumption is appropriate for African cases, and in the last analysis, this can only be decided empirically, on a country-by-country basis. Of course, alternative models are available which involve an explicit recognition of structural rigidities (for example Taylor, 1983) or of quantity rations in product and factor markets (Cuddington et al, 1984). Secondly, and perhaps more importantly, it is a comparatively static equilibrium framework. It can reveal something about the dynamics of change in an economy responding to various shocks, but it has to be admitted that this is not its strength. Its main advantage is that it is well understood, and is a simple yet powerful tool for showing how policy instruments influence real economies.

2.14 Before proceeding to the framework, some words of caution are in order. What is needed ideally is a model which has applicability to all Sub-Saharan African countries participating in the SDA program. Clearly, this is quite out of the question in any exact sense. What we are obliged to present, therefore, is a framework based on stylized facts, which, although not able to capture the full complexity of economic interactions.
during adjustment, and certainly not the variety of economic structures and experiences in the region, will highlight critical relationships applying to a greater or lesser extent in all countries. As Collier (1988: 1) argues,

“At their best such models, by dispensing with complex but minor detail, clarify major consequences of policies which might otherwise have been obscured. At their worst they are a misleading caricature, dangerous because of their apparent rigour.”

2.15 The orthodox model is presented therefore in order to structure our thinking about these issues, and is not intended to be strictly applied in each and every case. There will certainly be departures from the real world, and some of these may be quite critical. The actual meso-economic effects can only be determined empirically, as the SDA initiative moves into its data-gathering stages. However, the general applicability of the model to the African situation is reviewed below, and alternative approaches are briefly discussed.

Tradables and non-tradables

2.16 At the core of dependent-economy models is the distinction between “tradable” and “non-tradable” goods and services. Non-tradables are those goods and services whose prices are determined by domestic supply and demand. This is due to the nature of the good involved (e.g., public services, housing and construction) or because transport costs prohibit either the import or the export of the good in question, and insulate it from world markets. Tradable goods are those which cross frontiers and, in theory, their prices are determined directly by world market conditions, so that for a “small” economy, tradable prices are assumed to be exogenously given. One of the more important problems encountered in using this type of classification of product markets is that commodities can switch categories, frequently in response to the type of policy change under investigation. The most important reasons why goods are non-traded are commercial policy (e.g., prohibition of imports) and transportation costs. Taking the transportation mark-up to be q, and the world price of a commodity to be $P^*$, the domestic price must be equal to or less than $P^*/(1+q)$ in order for it to be exportable (assuming no trade taxes/subsidies). Similarly, for the commodity to be importable, its domestic price must be greater than $P^*(1+q)$, as otherwise its importer would not be able to compete with domestic suppliers. Thus we have a range of domestic prices for which the commodity is non-tradable — neither an exportable nor an importable. This range is simply given by,

$$P_s \leq \frac{P^*}{(1+q)} < P_n < P^*(1+q) \leq P_m$$

2.17 The difficulty here is that a commodity price can cross these boundaries and move from being non-tradable to being either an exportable (if the domestic price falls sufficiently) or an importable (if the price rises). Although we assume away changes in commodity classifications in the simple analytical framework presented below, the country-based empirical work would clearly have to identify where such changes occur. A second difficulty is that commodity classifications may change geographically. A certain commodity may be importable at or near the port of entry, but as transportation costs increase its price in remoter areas, it may become entirely insulated from world markets. This problem may have become more acute under adjustment, since transportation networks in Sub-Saharan Africa have deteriorated, and costs have risen accordingly. Again, the SDA program will be required to make a careful assessment of how all this may affect prices facing households, especially if such groups are located in remoter areas not well served by physical infrastructure.

2.18 There are sectors whose outputs clearly fall under the “tradable” label, such as production of cash crops for export. Similarly, many government services are unquestionably non-tradable. In between these pure cases, there lies a grey area of conceptual ambiguity. Our preference is to include any sector which is protected by severe import quotas under the non-tradable banner, since changes in the world price will leave domestic prices unaffected, and will only influence the margins obtained by importers. Furthermore, our inclination (at least for most countries in Sub-Saharan Africa) is to treat food production as tradable. Food, in contrast to manufactured products, is rarely protected. However, in the last analysis, the categorization has to be country-specific.

2.19 The definition of “tradable” production is bound to raise serious conceptual and empirical problems when applied to African economies.
We employ the tradable/non-tradable distinction here because it allows us to use a class of models that capture the main macro-economic processes powerfully and simply, and because it is essential to an understanding of how macroeconomic policy instruments will influence relative product prices and resource allocation. In practice goods have to be ranked in terms of their "tradability", so that we can say that one good is more tradable than another, in that its domestic price is open to greater influence by world prices. So when building models to obtain quantitative estimates of resource changes, more refined concepts of tradability have to be used — for instance, computable general equilibrium models contain sectors characterized by different degrees of tradability depending on the trade substitition elasticities between domestc and foreign goods.

A three-sector model

2.20 In order to illustrate how destabilization and adjustment policies have important meso-economic effects, consider a simple three-sector economy. Aside from assuming that the country is a price taker in world markets (which is an assumption held throughout this section and the next), we also begin by assuming that:

• two tradable commodities are produced, an exportable (X) and an importable (M). Their prices (P_x and P_M, respectively) are given by world markets, with P_M taken as the numeraire; we assume that the nominal rate of exchange (e) is fixed; a non-tradable (N) is also produced, its price being P_N;

• P_x is determined by domestic supply and demand factors, the latter being partly dependent on monetary and fiscal policy — other things being equal, an expansionary fiscal/monetary policy will raise P_x;

• for simplicity, all three commodities are only for final consumption, and are not used as intermediates in the production process; in addition, exportables are only consumed abroad, domestic consumption being confined to importables and non-tradables;

• product and factor (labor and capital) markets are perfectly competitive, so that the economy is in equilibrium on its production frontier; product- and factor-prices are assumed (initially at least) to be flexible;

• capital is sector-specific in the short run, so that only labor re-allocations can change the output mix in the economy; in the long run, both capital and labor may be re-allocated between sectors.

2.21 With the terms of trade (P_x/P_M) fixed, exportables and importables can be combined into a Hicksian composite commodity — tradables (T). This composite proves useful in analyzing the effects of policies (such as devaluation) which are designed to change the real exchange rate (P_x/P_M). However, once the external terms of trade change, or should governments adjust trade interventions (changing P_x/P_M), the composite breaks down. With the relative price of exportables and importables influenced by both external shocks and discretionary policy, the use of the tradables composite would be difficult to justify.

2.22 In such a model, the domestic price of exportables (P_x) will be determined by the world price, the exchange rate and any export taxes/subsidies imposed. Similarly, the importables price (P_M) will be given by the world price, the exchange rate and any import controls or tariffs in place. The price of non-tradables (P_N) will be determined by domestic demand and supply conditions. The demand for non-tradables will depend, inter alia, on fiscal and monetary policy, which will therefore play an important part in determining P_x. There are therefore three relative prices defined in such a model, only two of which are independent:

\[
\frac{P_x}{P_M} = \frac{P_x}{eP_M} \times (1+k)
\]

\[
\frac{P_x}{P_M} = \frac{eP_x}{P_M}
\]

\[
\frac{P_x}{P_M} = \frac{P_x}{eP_M} \times (1+k)
\]

where e is the nominal exchange rate, k is the tariff rate (or equivalent), the asterisk refers to world prices, and where there are no taxes or subsidies on exports. The two independent relative prices are P_x/P_M and P_x/P_M', the former depending on the international terms of trade and on the trade restrictions imposed, whilst the latter will be determined by the exchange rate and the domestic money supply (which determines the price level of non-tradables).

2.23 P_x/P_M and P_x/P_M are traced on the vertical and horizontal axes respectively in Figure 2.1. This means that no change in P_x/P_M occurs for vertical movements, and no domestic terms of trade changes occur horizontally. NN is a locus of values of these relative prices which give equilibrium in the non-tradables market. Along the
curve, the supply and demand for non-tradables are equal, so that

$$D_n(P_n/P_m) = Y_n, P_m/P_n/P_m K_n$$

2.24 In other words, the NN locus (which is in relative-price space) is drawn on the assumption that real income ($y$) and real money balances ($M/P$) are constant. Changes in any of these will shift the curve. The NN curve can also shift in response to movements in capital stock ($K_n$) into or out of the sector. Thus if capital is transferred out of the tradables sector into non-tradables, the NN curve would shift to the left. To the right of NN, non-tradables will be in excess supply and to the left, in excess demand. NN is positively sloped, and its slope will be greater than a ray through the origin (Collier, 1988: 2-3).

2.25 Similarly, the LL locus denotes values of these relative prices which give equilibrium in the money market, assuming that real income, asset demand and money supply are constant. That is, LL satisfies

$$M_e = M_e(P_n/P_m): A_2 y, M/e$$

2.26 Again, with the locus drawn in relative-price space, it will shift with changes in asset demand ($A_2$), real income ($y$) and money supply expressed in foreign currency ($M_e/e$) — $e$ being the rate of exchange. With the price level being too high below LL, the money market is in excess demand, whilst above the locus, the market is in excess supply. If money supply were to increase (caused either endogenously by a balance of payments surplus or exogenously through discretionary policy), the LL curve would shift downwards. As drawn, Figure 2.1 shows that full equilibrium is at $A$, with both money and non-tradables markets being in equilibrium. It follows (from Walras law) that there is zero excess demand in the tradables market, and that the balance of payments is in equilibrium. With this simple apparatus, we can now analyze how destabilization and adjustment may influence these key relative prices.

2.27 For purposes of exposition, we shall trace the changes in the economy following what may be considered typical destabilizing processes in Africa. Since the different sources of destabilization have conflicting effects on the positions of the curves, the net outcome is theoretically ambiguous. However, we show for illustrative purposes one possible outcome. Country-specific experiences can of course be accommodated in this framework (see Korayem, 1989).

**Terms of trade shocks and inappropriate macro-policies: the case of financing**

2.28 As we have already noted, the over-expansion of the public sector was associated with optimistic expectations of resource availability in general, and movements in the terms of trade in particular. To simulate this combination of a deterioration in a country's terms of trade combined with an expansionary fiscal and monetary policy (which is financed through foreign borrowing), we assume that an initial equilibrium exists, which is then disturbed by these two influences.

2.29 The deterioration in the terms of trade reduces real incomes ($y$), and thereby shifts the NN locus to $N'N''$ (Figure 2.2). The initial move-
ment of the system depends on whether the deterioration is due to an import- or an export-price shock. With an import-price shock (as for example with the two oil-price shocks), the economy will move to a position such as B (with $P_n/P_m$ remaining unchanged initially), whilst an export price shock would take the economy to C (with $P_n/P_m$ unchanged). As drawn, the market for non-tradables is assumed to move into excess supply.

2.30 At the same time expansionary fiscal and monetary policies have shifted the LL curve to L'L'. The expansion in real money balances will cause demand for non-tradables to increase, and the NN curve will shift back to the right to N'N'. As depicted in Figure 2.2, the non-tradables market is now assumed to move into excess demand, with the effect of the monetary expansion more than compensating the deflationary effects of the terms of trade deterioration. Thus, with no change in discretionary policy, the economy is jolted into a disequilibrium situation, with Z signifying the combination of relative prices which would re-establish equilibrium in all markets, but with disequilibrium prices (at B or C depending on the nature of the terms of trade shock) prevailing. Assuming no further changes in the terms of trade (or in government trade policy), the excess demand for non-tradables at B or C will cause $P_n$ to rise until the equilibrium in the non-tradables market is restored (at D). This is partly because demand for non-tradables will fall with the price rise, but also because factor re-allocations from exportables and importables will raise the supply of non-tradables.

2.31 Thus, the combination of a deterioration in the country's terms of trade and an expansionary fiscal and monetary policy might be associated with a movement in the key relative prices from A to D, through either B or C (depending on the nature of the terms of trade shock). Full equilibrium, however, is not restored, since the money market is in excess supply and by implication, there exists excess demand for tradables and a balance of payments deficit. The combination of these shocks, in taking the economy from A to D, is seen therefore to lead to a decrease in $P_n/P_m$, an increase in $P_m/P_n$, and a decrease in $P_n/P_m$. These relative price changes will then signal resource re-allocations, specifically from exportables into non-tradables and importables.

2.32 These shocks, however, will also induce changes in factor markets, as resource transfers take place between the sectors. Following Edwards (1988a), and assuming that exportables are the most labor intensive whilst importables are the least, we can trace the effect of a terms of trade shock on the factor markets. Recall that the shock results in a decrease in $P_n/P_m$ and the domestic effects of this may be fuelled further by increasing import controls, which will have the effect of decreasing the relative price further. Figure 2.3 illustrates the long-run effect of the terms of trade deterioration on relative factor prices under the above factor intensity assumptions. The initial equilibrium is at A, the point of intersection of the isocost curves XX, MM and NN. This gives the wage-rental combination before the terms of trade shock. The increase in $P_n$ causes the MM curve to shift to the right (to $\text{MM}'$), since higher combinations of wages and rental rates will now be permitted in the importables sector. The new long-run equilibrium is given at B, the intersection of XX with MM'. Since the increase in $P_n$ will cause an equilibrating rise in $P_m$, this will cause the NN curve to shift to the new intersection point at B. This terms of trade shock, therefore, will lead to adjustments in factor markets which raise the rental rate and lower wages. The resource re-allocations from the exportable sector into the more capital intensive non-tradable and importable sectors will therefore lead to pressure on the real wage to fall. Insofar as poorer households derive their income from selling their labor services, these shocks are likely to hit them particularly hard. Edwards (1988a) also analyzes the short-run effects, in which capital is sector-specific. In this case, a terms of trade deterioration will decrease the production of exportables, increase the production of importables, but have ambiguous effects.
on the production of non-tradables. Similarly, the effect on the real wage is ambiguous, and will depend on the consumption bundle of workers. (A simple framework for analyzing these short-run effects is presented in Chapter 3 below.)

2.33 Under this scenario direct effects on the supply side will also occur as the cost of credit falls with the expansion of the money supply, and producers find it cheaper to borrow from the banking system. The magnitude of this effect will depend on two factors: first, the access of producers to the formal credit market; and second, the degree to which the informal and formal credit markets are linked. Access to formal credit markets is highly concentrated in Africa, almost certainly more so than in other developing regions. The public sector, together with large urban businesses are generally the largest borrowers, followed by large estate farms and mining companies, and those farmers who are able to offer collateral. Most smallholders have only limited access to the formal banking system and will therefore receive few benefits from the fall in loan interest rates. They may benefit on the supply side, if a counterpart of the government's budget deficit and consequent borrowing from the banking system is translated into higher liquidity in the state crop marketing boards. The latter will then have higher levels of funds to pay farmers in advance of collecting their crop, thus effectively giving them credit for the intervening period. The articulation between informal and formal credit markets seems to be very weak in most African countries, so that a fall in the cost of formal credit probably has little effect on the cost of informal credit, since the suppliers of the latter are in turn limited in their ability to borrow from the commercial banks.

2.34 Overall the effect of monetary expansion on aggregate supply is likely to be small and highly concentrated in most African countries, compared to other developing regions — for example Latin America — where the distribution of credit, although unequal, is more disbursed, and thus where supply-side effects of credit expansion can be expected to be greater. Insofar as formal credit is concentrated in the public sector and urban services and industries, which are mainly non-tradable (see below), the effect of monetary expansion on the supply side of the product market will reinforce the effect on the demand side of the associated real appreciation, to further shift output towards non-tradables.

2.35 The effect of the monetary and fiscal expansion which has created the external disequilibrium will depend on the incidence of the expenditures concerned. A simple, but useful approximation involves disaggregating expenditure changes during the period of destabilization into four broad categories — government consumption, government investment, private consumption and private investment. It should be possible to decompose the change in the current account deficit which has arisen from excessive domestic expenditure into these expenditure categories, using the national income and product accounts. In this way, it should be feasible to identify whether the expansion in expenditure which caused the growing external deficit was caused by an increase in government or private spending, and whether it was devoted to consumption or investment expenditures.

2.36 Drawing all the threads together, we may now summarize the effects of a terms of trade shock combined with a fiscal/monetary expansion. It has caused:

- $P_r/P_m$ to fall;
- $P_n$ to rise, so that $P_r/P_n$ falls;
- resource re-allocation out of exportables into non-tradables and importables;
- real wages to fall in the long run, with ambiguous short-run effects.

2.37 These then are some major meso-economic effects of destabilization on product and factor markets. There would also be effects on the other components of the meso-economy — namely the economic and social infrastructure. Insofar as the disequilibria have been caused by expansionary domestic fiscal and monetary policies in the countries concerned, there may be direct effects on these elements. It is also possible that the period of destabilization is associated with major institutional changes, for example in marketing, which have a powerful influence on the meso-economy. The fall in the price of exportables may be aggravated by these changes, if government marketing boards keep producer prices below market levels as a means of raising revenue. These effects, of course, can only be determined at the empirical (country) level.

Effects of import compression

2.38 The limit to the financing strategy is reached when the supply of external finance becomes inadequate to meet the rising current ac-
count deficit. At this point the government concerned may choose to implement an adjustment program. However, many governments resort instead to a reliance on tightening import restrictions and exchange controls as a balance of payments strategy, it is the welfare effects of this strategy which concern us here. Both tariffs and quotas are generally in place prior to the onset of severe balance of payments problems, since they are instruments of import-substituting industrialization. In situations of balance of payments crisis, resorting to quotas has been the main way of extending protection, although tariff rates are also raised.

2.39 In our simple three-sector model, a government can intervene by changing the level of trade restrictions, the rate of exchange and the budget deficit/money supply. We can use this apparatus to show how governments, through increasing the protection afforded to importables, can avoid the necessity of adjustment. Figure 2.4 depicts the situation immediately following the destabilizing events which were illustrated previously in Figures 2.1 and 2.2. To restore equilibrium, policy choices should involve some combination of fiscal and monetary contraction (shifting the LL curve upward towards D) and trade policy changes in order to decrease $P_x/P_m$ and $P_s/P_m$, that is, an increase in protection which would raise $P_m$. One solution is at E, involving total reliance on exchange rate and monetary policy, which would shift LL to $L^*L^*$ and NN to $N^*N^*$. In this case, no import controls are imposed, and no policy-induced change is made in $P_x/P_m$. This adjustment mechanism can readily be analyzed using a two-sector dependent economy model, since the adjustment process leaves $P_x/P_m$ unchanged and shifts the economy horizontally in terms of Figure 2.4. On the other hand, governments may wish to adjust trade policies in order to restore a compatible and sustainable combination of policy instruments. An increase in tariffs or import quotas would lower both $P_x/P_m$ and $P_s/P_m$ moving relative prices along the ray OD (say to F). The degree of fiscal and monetary contraction (shifting the NN and LL curves) that is necessary to restore equilibrium will consequently be reduced, taking the economy to F (rather than to E).

2.40 If government policy can be characterized as initiating a movement from D to F, it is clear that it places much greater emphasis on a decline in $P_x/P_m$ (i.e., an increase in import protection) than the movement from D to E, which is achieved through increases in $P_s/P_m$ and $P_s/P_s$ (as a result of devaluation and fiscal contraction). The movement from D to E would be associated with a general shift of resources out of non-tradables into both exportables and importables, whereas the movement from D to E implies resource re-allocations from non-tradables and exportables into the importables sector.

2.41 However, these import restrictions will not only affect relative prices in product markets. They can also result in quantitative adjustments in these markets which will have far-reaching effects on both the meso-economy, and on the households. Applying quotas to importables cuts the supply of tradable goods, but it does not reduce the level of demand for tradables; the government maintains its expansionary fiscal and monetary stance. In addition, if the government is forced, by the foreign exchange shortage, to restrict importable intermediate goods, domestic production of both tradables and non-tradables will fall, the size of the fall depending on how the scarce import quotas are rationed between sectors, and the possibilities of substituting home-produced inputs for imported ones in the production process. So in addition to the contraction of available goods due to the cut in imports, aggregate domestic supply will also fall through the reduction in domestic output of both tradables and non-tradables.

2.42 With aggregate demand continuing to grow, and aggregate supply reduced, the inflation rate will increase, given that the tradables market can no longer clear itself through sucking in imports. As inflation accelerates, many countries have tightened price controls. Consumers accordingly find themselves rationed in the con-
trolled markets. But with monetary policy driving excess demand in goods markets, equilibrium prices steadily move above controlled prices. Sellers and buyers therefore have an incentive to establish parallel markets. With the imposition of import quotas and price controls, economic rents become increasingly important determinants of household incomes. Those households with access to the increasingly scarce commodities can make large gains with the prices of those goods rising in parallel markets. Access to scarce consumer goods is generally gained through rationed import licenses and smuggling goods from neighboring countries. These are "Directly Unproductive Profit" (DUP) seeking activities, where DUPs are defined as activities which give pecuniary gains to those engaged in them, but with no corresponding output of goods or services. Since these activities take resources away from productive activities, they shrink the economy's production possibilities for such goods (Srinivasan, 1985: 46).

2.43 The rise in the overall inflation rate (as measured by uncontrolled parallel market prices) will be accompanied by changes in relative prices (again measured through parallel markets). The real exchange rate will continue to appreciate since its course is driven by the over-expansionary monetary policy. Thus, the relative price of non-tradables to exportables will continue to move in favor of non-tradable activities.

2.44 Given the rise in the prices of consumer, capital and intermediate goods, and static nominal producer prices, the real price received by the farm-household will fall. While agriculture as a tradable activity will be disfavored under this policy scenario, within agriculture incentives tend to shift towards food crops and away from export crops due to the operation of the parallel market. The domestic parallel market is usually much larger for food crops than for non-food export crops. Thus food producers, faced with low official prices, find it easier to redirect their sales to the parallel market, while export crop producers, unless they can smuggle their produce to neighboring countries with better prices, must continue to sell most of their output to the state at controlled prices. Thus, the structure of parallel market prices favors food over export production, and farmers redirect their resources into food. Since both food and export crops are grown on most small farms, this is relatively easy for them to do. Over time, with demand expanding as the budget deficit widens, the structure of prices between food and non-food export crops on the parallel market will shift further towards food. This will compress the income differential enjoyed by export farmers over food farmers (Lele, 1985).

2.45 With aggregate supply now restricted by the tightening of import controls, excess money balances build up as the government budget deficit continues to generate a monetary supply expansion in excess of money demand. As the current account deteriorates further, the government, unable to obtain financing, further restricts imports. In the early stages of the crisis, priority has usually been given to imports of key intermediate inputs. But as the external situation deteriorates further, a position is eventually reached where cuts begin to be made in intermediate imports, rationing the available supply among producers. As import constraints tighten, capacity utilization and output fall. This is exacerbated by the high dependence of import-substituting industries on intermediate imports, itself partly due to previous macro- and trade policies.

2.46 Unless the government reverses its policy of keeping producer prices low, real producer prices continue to decline as inflation accelerates, thus reducing the incentive to produce cash crops. Moreover, even if producer prices are raised at this stage, the supply response of smallholders may be limited, as they are now rationed as buyers in the consumer-goods market. Extra cash no longer buys them "incentive goods". Imports of intermediate inputs for farming are also rationed, and typically larger and better-off farmers gain more access to the rationed inputs than smaller and poorer farmers (World Bank, 1986a). This together with the fall in capacity utilization of domestic agro-industries, and the effects on the crop collection and transport systems further disrupts agriculture.

2.47 In the labor market, the contraction of capacity-utilization leads to short-time working and increasing redundancies. Up to this stage employees in the protected import-substituting industries have been relatively favored, particularly through the sharing out of excess profits into higher wages. The contraction of employment in the manufacturing sector will put pressure on money wage levels, and the degree to which reduced labor demand is translated into reduced employment or reduced wages will depend on the flexibility of wages. Faced with
Demand constraints in the labor market, the urban unemployed will look for alternative income. With the contraction of formal-sector job opportunities, new labor market entrants will look increasingly to the informal sector for their survival. Employment in the informal sector accordingly increases during such periods. However, aggregate real incomes are now falling with the decline in formal sector activity, so total sales of informal-sector products tend to decline as well. Accordingly informal producers find themselves competing for a shrinking market, and average incomes in the sector usually decline.

2.48 The contraction of GDP reduces the government's revenue base, which in turn raises the public sector deficit, thus adding to inflationary monetary expansion. The revenue base also stagnates because, as market prices rise above controlled prices, a larger number of sales are conducted through parallel markets. Incomes generated in parallel markets avoid income tax. Moreover sales taxes are usually set as a given percentage of the controlled price level, so that the difference between the price on the parallel market and the controlled price is effectively not taxed.

2.49 With imports cut, and domestic supply rationed, governments increasingly find that they are unable to maintain both economic and social infrastructure. The effective supply of public goods falls; for example, schools and clinics cannot provide their previous levels of education and health care because of increasing scarcity of school books, drugs etc. Like the strategy of financing the trade deficit, the option of reducing the deficit through cutting imports does not solve the underlying disequilibria and the economy remains unstable. Unless corrected by sufficient policy adjustments a spiral of falling output and imports is generated which feeds on itself.
Adjustment and its impact

Introduction

3.1 In the previous chapter we saw how economies can be destabilized by both inappropriate policies and various types of shock. If governments rule out entirely the correction of policies in the form of an adjustment program, they have two choices: either to find external financing for the trade deficit; or to compress imports. Each of these scenarios has implications for the meso-economy which we explored in previous chapters. We now take up the story at the point at which the government has decided to tackle the fundamental distortions underlying the internal and external imbalances through the implementation of a comprehensive adjustment program.

3.2 As we have already noted, “adjustment” can be achieved through stabilization, which mainly involves short-run demand management, and through structural adjustment, which introduces micro-economic and meso-economic interventions to the adjustment process often involving institutional reforms. Stabilization and structural adjustment are not alternative modes of adjustment, and many countries implement stabilization packages in agreement with the IMF and structural adjustment programs with World Bank support. The latter essentially take a more medium- to long-term policy perspective. Before considering how these policy responses may affect the various elements of the meso-economy, we briefly review the types of adjustment response that have been observed in Africa.

Adjustment policies in Africa and their macro-effects

3.3 A number of recent studies (for example Balassa, 1988a, Thomas and Chhibber, 1989, World Bank, 1988a, 1988b, and World Bank/UNDP, 1989) have made an assessment of structural adjustment lending and its major impact in the developing world. These studies provide useful information on the experience of African countries with structural adjustment. The first and obvious question that has to be addressed concerns the content of the structural adjustment programs: what were the policy instruments manipulated under programs. In its review, the World Bank (1988a: 88) provides a useful summary which is repeated in Table 3.1.

3.4 There are three major implications of these results. First, adjustment lending by the World Bank in the African countries reviewed has embraced a wide range of policy interventions, with energy being the only sector not covered in Africa as much as elsewhere. More attention seems to have been paid to public expenditures, public enterprises, agricultural policy and (surprisingly) industrial policy in SAL conditionality in Africa. Although (for reasons given in the table) the data are difficult to interpret, the evidence also suggests that exchange rate interventions are more likely in adjustment policies in Africa than elsewhere. Trade policies, public enterprises and agricultural policy account for 61.8 percent of the total number of policy conditions set under ad-
Finally, the World Bank study found that in most cases there were four or five key policy conditions in each structural adjustment program, most of which concern trade policy (35 percent), public expenditure and fiscal policy (19 percent), public enterprise reforms (14 percent) and pricing policy (especially agriculture and energy pricing, comprising 14 percent). Whilst the Bank study reports only the figures for all 15 countries, it is likely that similar orders of magnitude apply to SSA countries (except the role of energy pricing policies which were not a feature of most SSA programs).

3.7 MACRO-EFFECTS Before we apply our analytical framework to the meso-economic effects of these policies, we shall briefly summarize the main macro-economic effects of the adjustment programs as reported in World Bank (1988a). This study attempted to assess the impact of adjustment programs on performance indicators, adopting a simple methodology for evaluating whether adjustment enhanced the performance of these indicators. Two approaches were adopted: the first compared the performance indicators during the three years before the first year of an adjustment program with the performance during the following three years; the second compared unweighted average values of the indicators for all countries in receipt of adjustment lending (AL countries) with those of other countries in each country group (NAL countries). The latter method was to compare the change in the indicators between the three-year periods before and after the implementation of the adjustment program, with the change in the indicators experienced by countries not in receipt of adjustment loans. Our interest obviously lies in the results for SSA.

3.8 The results for the SSA country group reported by the World Bank are given in Table 3.2. The numbers in the table indicate the number of countries in the AL group which performed better than the NAL control. The sign indicates whether the direction of change in the average value of an indicator was better (+) or worse (-) in comparison with the same indicator for the NAL group. These data show that the performance of SSA AL countries is decidedly mixed when compared with the control group. There is evidence in these results of a general improvement in the two key imbalances — the balance of payments current account and the budget deficit. The former seems to have been brought about by expen-

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Table 3.1 The policy content of World Bank lending operations

<table>
<thead>
<tr>
<th>Policy Area</th>
<th>SSA</th>
<th>All Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Exchange Rate</td>
<td>30.2</td>
<td>15.7</td>
</tr>
<tr>
<td>2. Trade Policy</td>
<td>76.9</td>
<td>78.4</td>
</tr>
<tr>
<td>3. Fiscal Policy</td>
<td>61.5</td>
<td>64.7</td>
</tr>
<tr>
<td>4. Budget/public expenditure</td>
<td>69.2</td>
<td>51.0</td>
</tr>
<tr>
<td>5. Public enterprises</td>
<td>61.5</td>
<td>52.9</td>
</tr>
<tr>
<td>6. Financial sector</td>
<td>38.5</td>
<td>39.2</td>
</tr>
<tr>
<td>7. Industrial policy</td>
<td>53.8</td>
<td>25.5</td>
</tr>
<tr>
<td>8. Energy policy</td>
<td>7.7</td>
<td>23.5</td>
</tr>
<tr>
<td>9. Agricultural policy</td>
<td>76.9</td>
<td>49.0</td>
</tr>
<tr>
<td>10. Other</td>
<td>23.1</td>
<td>13.7</td>
</tr>
</tbody>
</table>

a. Lending operations under structural adjustment and sector adjustment loans in Africa (Ghana, Kenya, Malawi, and Zambia) and 11 other countries.
b. Since the IMF has responsibility for exchange rate policy, these figures underestimate the importance of exchange rate conditionality in the Bank's adjustment lending.

Source: World Bank, 1988a: Table 4.2

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...
diture switching policies, as evidenced by the favorable indicators of export growth and the real exchange rate. The external debt situation has also improved compared with the control group. However, the longer-term effects are not so favorable. Three key indicators reveal an unfavorable comparison with NAL countries — GDP growth, the investment/GDP ratio and the rate of inflation. The first two of these suggest that the longer-run prospects for rapid growth have not been enhanced through the policy interventions that have been made. The poor inflation performance suggests that the favorable real exchange rate indication may not continue into the future.

3.9 These findings are similar to a number of other recent studies — for example World Bank/UNDP (1989), Balassa (1988a), Sahm (1989), World Bank (1988b), Thomas and Chhibber, (1989), ECA (1988). These reports differ, however, in interpretation. The World Bank/UNDP study further divides the sample of countries into those that have been affected by strong shocks subsequent to the implementation of adjustment programs. This further breakdown of the sample makes a significant difference to the comparison between the economic performance of adjusting and non-adjusting countries. The reader must make his or her own judgement about the merits of this further subdivision.

3.10 Taking the combined evidence of these studies, questions undoubtedly remain over how responsive sectoral and aggregate output in the region has been to the price signals of structural adjustment. A slow supply response in aggregate output suggests that a longer time perspective may be required to induce more rapid growth. We shall return to this important question below. Moreover, institutional changes (which many regard as critical to improving the growth performance) require more time and are more difficult to achieve, even under adjustment lending instruments (World Bank, 1988a: 90).

3.11 Apart from the difficulties in selecting the appropriate control and experimental groups of countries to perform such comparisons, these studies can only be regarded as reporting some preliminary evidence. First, the aggregations involved in setting up these tests tend to mask more than they reveal about adjustment’s effects. Second, the time period which they cover (invariably only three years following an adjustment program) is simply too short to be able to draw confident conclusions about how the policies have affected the real economies. No doubt, follow-up assessments by the World Bank, taking a longer time perspective, can be expected in the future.

An orthodox framework for analyzing the meso-effects

Devaluation/expenditure reduction

3.12 PRODUCT-MARKET EFFECTS This review of adjustment policies in Africa and their effects would suggest that our analytical framework must incorporate both expenditure switching policies (depreciating the real exchange rate and increasing the growth of agricultural production, exports and import substitutes) and expenditure reducing policies (as evidenced by the budget balance performance indicator). Whilst there is evidence in the studies mentioned above that institutional changes have been slower to implement, so that our model may be a reasonable account of the effects that have been experienced, it must be acknowledged that this framework is only an approximation, intended to structure our initial thinking. In many countries, institutional reforms can have fundamental and dynamic effects on the economic system — effects that cannot be handled in this simple comparative static framework.

3.13 To trace a policy combination of devaluation and fiscal/monetary contraction, we retain the apparatus described in the previous section. For this policy package, we can assume that \( P_f / P_n \) remains unchanged, since in our simple model (with no intermediate demands) this relative price is unaffected by either a change in the nominal exchange rate \( (e) \), or in \( P_n \). Figure 2.4 illustrates the movement in relative prices as a policy combination of devaluation and fiscal/monetary con-

<table>
<thead>
<tr>
<th>Table 3.2 Relative performance indicators for 15 SSA countries</th>
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<tbody>
<tr>
<td>Number of AL countries: 15</td>
</tr>
<tr>
<td>Number of NAL countries: 22</td>
</tr>
<tr>
<td>1. GDP growth</td>
</tr>
<tr>
<td>2. Investment/GDP</td>
</tr>
<tr>
<td>3. Export growth</td>
</tr>
<tr>
<td>4. Real exchange rate</td>
</tr>
<tr>
<td>5. BoP/C/A deficit/GDP</td>
</tr>
<tr>
<td>6. Budget balance/GDP</td>
</tr>
<tr>
<td>7. Inflation</td>
</tr>
<tr>
<td>8. External debt/GDP</td>
</tr>
<tr>
<td>9. Debt service/exports</td>
</tr>
</tbody>
</table>

Source: World Bank (1988a: Table 2.4a)
traction is applied. Recall that following the destabilizing events traced in the previous section, the economy is in disequilibrium at D, on the N'N' curve (i.e., in internal equilibrium) but off the LL locus — the money market being in excess supply. This means that there is an excess demand for tradables — a balance of payments deficit. A judicious combination of fiscal/money- tary contraction (shifting the NN curve to the left to N*N and the LL locus to L*L) and devaluation, taking the economy horizontally to E, will restore both internal and external balance.

3.14 The key indicator of this switching policy is the depreciation of the real exchange rate, $P_e/P_r$, which induces a shift in production out of non-tradables into tradables. A switching policy therefore affects the *product markets* by changing the relative price regime in favor of tradables. This is illustrated in Figure 3.1, in which the production possibilities of non-tradables and the composite tradables are represented by the NVT curve. In the initial disequilibrium situation (point D in Figure 2.4), production is at x and expenditure at y — there being equilibrium in the non-tradables market, but an external deficit of xy. A policy of reducing absorption (from OA to OB measured in non-tradables) and exchange rate devaluation (shifting the price line from AA' to BB'), will restore external and internal equilibria, with both production and expenditure shifting to z. According to this interpretation, adjustment must involve a depreciation in the real exchange rate, which will in turn induce resource shifts into the tradables sectors (exportables and importables).

3.15 This simple model predicts an across-the-board increase in tradables prices — all tradables (whether importables or exportables) will benefit from the devaluation to the same extent, and will be in receipt of resource re-allocations. However, in reality some tradables prices will be raised by more than others, and will benefit from greater resource inflows. First, if there is a parallel market for foreign exchange, a devaluation will have complex effects on exchange rates, since it will directly affect the official exchange rate, and only indirectly change the unofficial rate, so that the relation they bear to each other may well change. This means that the price of tradables exchanged in the official market will change relative to those exchanged through parallel markets. If exportables are more likely to be exchanged at official rates, and importables at parallel rates, a devaluation may change $P_e/P_r$. This is the basis of Lele's (1989) explanation of the increase in the price of food crops (exchanged through parallel markets) relative to export crops (marketed through official channels).

3.16 Secondly, if some importables are subject to quantitative restrictions, devaluation will have no first-round effects on their prices — it will simply affect the trading margins of the importers. Thirdly, since resource re-allocations are responsive to value added in the sector (and not simply the output price), tradables which use imported intermediate inputs will not attract resources as much as sectors which do not, even though the percentage increase in the output price is the same. Thus, if an agricultural sector uses imported fertilizers and other inputs, the net resource allocative effect of the devaluation may be negligible.

3.17 Finally, an adjustment package may entail other policy instruments (such as reduced tariffs, product market liberalization, marketing reforms, etc.) which affect both prices and quantities. Thus, the relative price changes brought about by the combined devaluation/fiscal contraction will be modified by these policy-specific changes. In addition, quantitative constraints may be lifted as a result of adjustment, and these somewhat profound changes in product markets can have important implications for households.

3.18 This account of the adjustment process underscores two key elements of a switching strategy. First, it must be possible for policy interventions to change the underlying structure of relative prices — i.e., change the real exchange rate. Governments can only manipulate nominal instruments (such as the money supply and the nominal rate of exchange). Whether the applica-
tion of these instruments leads to the desired change in relative or real prices will depend on accompanying macro-economic policies and the structural characteristics of the economy. If these lead to an increase in $P_0$, the real exchange rate depreciation will be reduced, or even prevented altogether (Edwards, 1988b: 29). These include: a continued fiscal/monetary expansion; real wage resistance through, for example, collective bargaining or wage indexation; and the use of imported intermediate inputs. On the basis of twenty-eight devaluation episodes, Edwards (1988b: 38) estimates that a 10 percent devaluation results in a 7 percent real exchange rate depreciation in the first year, falling off to 5 percent by the third year, other things being equal. The erosion of the devaluation is even greater if an expansionary monetary policy is applied following the devaluation.

3.19 If $P_t/P_0$ is subject to some form of rigidity, adjustment cannot be achieved through switching. With no change in relative prices, adjustment would have to rely on expenditure contraction, along the income-expenditure ray (OE in Figure 3.1). To correct the external deficit, total expenditure would have to be cut to OC (measured in non-tradables), taking the economy to u. However, the restoration of external balance is achieved only by sacrificing internal balance and creating factor unemployment, since the economy is necessarily drawn within its production frontier. With price rigidity, therefore, the nature of the adjustment process must change—involving greater short-run costs in terms of output loss. This “fix-price” case is considered in more detail below.

3.20 The theory also highlights the key role played by price-responses in the adjustment process. Even if governments can effect changes in the underlying structure of relative prices, the achievement of internal and external balances requires positive supply responses, and resource flows into the tradables sector. If there are weak supply responses and impediments to resource re-allocations, expenditure reduction (as opposed to production switching) would again have to bear the main burden of the adjustment. Whilst the short-run price responsiveness of total agricultural output (agriculture being the most important tradable sector in most African countries) has generally been found to be low (Bond, 1993 and Binswanger, 1989), there is evidence that agricultural production for export has been price responsive. Cleaver (1988) has compared agricultural growth rates in countries of Africa which have implemented exchange rate depreciations and other pricing policies, with those that have not. Although there was little difference in growth rates in the 1970s, agricultural output growth in the adjusting countries has increasingly outstripped that experienced among non-adjusters. These data suggest that export production has responded to adjustment policy, but the evidence is too aggregative to be conclusive at this stage. A number of factors (risk aversion, poor market articulation, inelastic supply of factors of production, etc.) combine to suggest that supply responsiveness in significant tracts of economic activity in Africa (especially in agriculture) is slower than the orthodox model requires. The key to the medium-term price response in Africa lies in the implementation of non-price reforms, such as in marketing, infrastructure, credit, etc. (Sahn, 1989: 72-76).

3.21 Expectations over the probable outcome of an adjustment program will also be important. If the program is credible in the view of the public, in the sense that the government is expected to persevere with its new policies, the shift in relative prices will be viewed as permanent, and productive resources will be re-allocated accordingly. But re-allocating resources to tradables can be highly costly to agents if the adjustment program is cancelled, and the policy-bias against tradables is resumed. So, with uncertain expectations about the program, agents will delay their decisions about resource allocations as they gather information. New programs most often lack credibility when there is a history of past policy-reversals. In Africa this has been all too common and governments, if they are committed to adjustment, must send out very clear signals that policy changes will be sustained.

3.22 Insofar as devaluation conveys the message that the government now intends to shift resources into tradables, it enhances the credibility of the adjustment program, and therefore raises private sector confidence about investing in tradables. Action at the micro-economic level to encourage greater price flexibility will also help—in particular inappropriate micro-pricing policies which create price rigidities need to be eliminated. In summary, adjustment programs, which include devaluation and suitable micro-economic reforms, can maximize the rate at which resources will move into tradables, and can therefore mini-
40

mize resource unemployment costs. Thus, the way programs are designed has a major bearing on the issue of social costs under adjustment.

3.23 Before concluding this discussion of the product market effects, it is important to emphasize the critical role played by meso-level institutions in transmitting the signals generated by policy to the economic agents concerned. The model defined above assumes that product markets are generally competitive, and that an increase in the commodity price in the market (whether it is the domestic or the foreign market) is enjoyed by the producers (allowing for the transport/handling mark-ups). But we know that this is not always the case. Whether the price signal emanating from a policy change reaches its targeted destination depends critically on the nature of the markets concerned, and in particular on the institutions serving those markets. In the context of recent adjustment efforts, there is evidence that some farmers are not receiving the full benefit of the economic reforms because of the activities of middle-men (perhaps we should call them "meso-men") who fail to pass on the potential price increase to the producers (see for example, Thomas, 1989 and Thomas and Welde- mann, 1988). When the nature of product markets is monopsonistic in this way, there can be no assurance that policy reforms will achieve their desired effects. It may be that the instances cited are exceptions to the general rule, but even if this is the case, they may well be important exceptions. If the exceptions apply mainly to poorer groups of farmers, for example, it would have profound implications for the social dimensions of adjustment. Whilst it is true that adjustment programs may deliberately seek to strengthen meso-level institutions, and improve the functioning of markets, the SDA initiative must establish the nature of the markets in which households buy and sell their produce.

3.24 LABOR-MARKET EFFECTS We now move to consider the effects of adjustment on the labor markets, since many poor households rely on the sale of labor services as the main means of livelihood. To do this, we distinguish between short- run and long-term effects. In the short run, the switching effects of a real exchange rate depreciation will induce a movement of labor into tradables and out of non-tradables. For this to happen, the real product wage \( W_i/P \) must decrease in tradables (to induce the release of labor). The effect on the real consumption wage (which is the nominal wage deflated by the consumer-price index — the latter being a weighted average of tradable and non-tradable prices) will therefore be ambiguous, and depend on the consumption bundle of workers. If wage-earners consume mainly non-tradables, their real wages are likely to rise in the short run. 3.25 While in theory the movement to point \( z \) in Figure 3.1 entails a smooth adjustment around the production frontier so that total output remains constant, this is very unlikely to occur in practice. Transitional unemployment may arise as the economy moves between these positions. Non-tradable activities will generally contract faster than tradable activities can expand, especially if the latter require the rehabilitation of equipment and new investments. Hence, total output may fall in the short run, and factors will be unemployed in this period while awaiting their re-allocation to tradables. This transitional unemployment will gradually be reduced as tradable activities expand, since they are more labor-intensive than non-tradables.

3.26 Long-term effects, the real effects of the adjustment process described, will depend on the relative factor intensities of the tradable and non-tradable sectors. With full factor mobility between sectors, it is clear that production switching towards the tradables sector will redistribute incomes towards those factors used relatively intensively in the tradable sector. Since the tradables sector is likely to be relatively labor-intensive (compared with non-tradable) in most African countries, production switching would, at existing factor prices, lead to excess demand for labor. The increased demand for labor in the expanding tradable sector will exceed the supply of labor yielded by the contracting non-tradables sector. With labor in fixed supply, the real wage rate will rise in the long run (Knight, 1976 and Lal, 1984).

3.27 For what follows, it is helpful to illustrate the short-run and long-term labor market changes diagrammatically. The horizontal axis of Figure 3.2 allocates total labor supply \( (O_1-O_2) \) to the two sectors, measuring labor in tradables from the left and in non-tradables from the right. The vertical axis measures the wage and marginal-productivity in the two sectors in terms of the non-traded good. The original demand for labor curves (being the value of the respective mar-
original product of labor curves — VMP) associated
with production at x (in Figure 3.1), give \( O_L \)
labor in tradables and \( O_{n-L} \) in non-tradables. With
flexible wages, the labor market clears at the wage
\( W_t \).
3.28 Assuming \( P_t \) fixed, the depreciation in the
real exchange rate is achieved through devaluation —
which raises \( P_t \). Given that wages and
marginal products are measured in terms of the
non-traded good, the curve VM\(_{n} \) shifts outward
to VM\(_{n-t} \), with VMP\(_{n} \) remaining unchanged.
Labor market equilibrium is restored in the short
run at the higher wage (\( W_t \)). The increase in
the nominal wage (ab) is less than the increase in \( P_t \)
(ac), so that \( W_t/P_t \) falls, and \( W_t/P \) rises. The
change in the real consumption-wage, therefore,
is subject to the orthodox ambiguity, depending
on workers' consumption propensities. \( L_1 \) workers
previously employed in the N sector now
move into tradables production.\(^{34}\)

Labor-market imperfections

3.29 The main weakness of our analysis of the
labor-market effects of adjustment so far has been
the assumption that the market functions com-
petitively — wages are flexible and full employment
guaranteed. As a representation of what happens in African labor markets, this is a seri-
ous limitation. The framework therefore needs to
be brought nearer to reality by introducing im-
perfections in the labor market. This is done by
assuming that the labor market is divided into
formal and informal sectors, with wage rigidity
characterizing the former. To illustrate the impli-
cations of labor-market rigidities, consider a situ-
ation where non-tradables are produced in the
formal sector and tradables in the informal sec-
tor. This would seem to be a particularly appro-
riate assumption in dealing with African coun-
tries, in which most wage data refer only to wages
set in the formal sector dominated by public em-
ployment.\(^{35}\) Consider then the effects of a nomi-
nal minimum-wage \( W_{n}^{*} \) in non-tradables, restric-
ting employment to \( O_{n-L}^{n} \) (see Figure 3.3). The
remainder of the labor-force takes up employment
in the T (informal) sector at the market-clearing
wage, or searches for formal N-sector (higher-
wage) employment. Employment in the informal
tradables sector is determined where a rectangu-
lar hyperbola (labelled H and drawn through x)
intersects VMP\(_{n} \) at (y).\(^{36}\) Thus, the informal-sector
wage settles at \( W_{n-t} \), with employment at \( O_{n-L}^{n} \).

Given this wage differential, \( L_1 \) workers decide
to remain unemployed whilst engaged in job
search.

3.30 What are the meso-economic effects of
adjustment under these circumstances — how
does it change this existing equilibrium? As be-
fore, an expenditure-switching policy causes
VMP\(_{n} \) to shift right (to VMP\(_{n-t} \)), but leaves the posi-
tion of VMP\(_{n} \) unchanged. The result is an in-
crease in \( L_1 \) informal (T) sector wage to \( W_{n-t} \)
whilst \( L_{n-L}^{n} \) workers opt for search unemploy-
ment. The adjustment, therefore, leads to: a rise
in informal (tradables) employment to \( O_{n-L}^{n} \); no
change in formal (non-tradables) employment; a
fall in unemployment to \( L_{n-L}^{n} \); a fall in the real
consumption-wage in non-tradables; ambiguity
in the direction of change in the real consump-
tion-wage in tradables, depending on the con-
sumption propensities of workers;\(^{37}\) and a de-
crease in the real wage-gap between the sectors.
So whereas in the competitive case, all workers
experience the same short-run real wage change,
with labor-market imperfections the effects de-
pend on their sector of activity — in the case we are considering, workers in non-tradables definitely lose as a result of a switching policy, whilst those in informal tradables may or may not suffer a cut in real wages.

3.31 The model serves to underline the crucial need to go beyond the simplistic competitive case, since it yields qualitatively different predictions. This account is also consistent with a number of observations recently made about how real wages in urban formal sectors (dominated by public-sector wages) have fallen dramatically in many African countries, whilst rural incomes (generated mainly through tradables) have benefited from favorable price trends, thus noticeably narrowing the urban-rural wage gap (see Jamal, 1988 and Sahn, 1989: 93-94).

3.32 To complete this discussion of labor-market imperfections and adjustment, assume that adjustment has been achieved solely through expenditure reduction, with no switching. Figure 3.4 illustrates this case. Given the small country assumption, the reduction in expenditure will not affect the production of tradables, since with \( W/P \) unchanged, there will be no incentive for producers to change output. But the non-tradables sector will take the brunt of the contraction. Therefore, whilst the VMP schedule is unaffected by adjustment, VMP_\text{a} shifts downward. With the wage fixed (at \( W_a^* \)) in non-tradables, employment takes the brunt of the adjustment, falling to \( Q_{1a} \). Unemployment rises to \( L_{1a} \), and employment in tradables rises to \( Q_{1T} \). But note that the wage in the informal tradables sector falls to \( W_\alpha^* \). Adjustment through fiscal contraction is seen therefore to work through employment changes in the formal (non-tradable) sector and wage changes in the informal sector. Again, the prospects for workers depend very much on the sector of occupation — those in tradables this time taking a greater real-wage cut than those in non-tradables. They gain, however, through increased employment opportunities (in contrast to the employment reduction in non-tradables).

3.33 The analysis of Figure 3.4 assumes that a wage cut in the informal sector is feasible. But suppose that \( W_a \) is already at or near the subsistence floor, and that further downward movements are simply not feasible. No employment expansion in tradables can occur, so that the displaced workers from non-tradables (\( L_1 \), in Figure 3.4) and the unemployed who now abandon their job search in the non-tradables sector, will either find it difficult to find employment in tradables, or if they do succeed, will cause some workers previously employed there to lose their remunerative employment. Either way, some workers will become destitute as a result of adjustment. If adjustment does rely heavily on expenditure reduction rather than switching, and if the free-market wage in the economy is already at or near subsistence, the prospects for workers, and especially the poor among the working population, are grim indeed. This result points to a scenario which some observers have suggested is typical of African countries in recent years. With real wages having fallen significantly during the 1980s, it is suggested that little room remains for a labor-transfer process of the sort suggested by the orthodox model. The retreat into subsistence activities (even in urban areas where food cultivation is increasingly common), together with the influence of extensive kinship networks, combine to suggest that there will be little labor movement to the rural (tradable) sector. Clearly, this is an important empirical matter, but see ILO (1988c) for a review of some recent evidence.

3.34 Which non-tradable sectors contract will be very much determined by policy during this period. The contraction in non-tradables is induced by a cut in the government budget deficit (associated with monetary restraint). Some of the fall in non-tradables will therefore be a direct result of a cut in government activities. Overall budget priorities will determine which public activities are cut. The first to go are usually temporary employees, and the hiring of new employees is usually curtailed. Although the “output” of public services is reduced, the government may not at this stage decide to shake-out its permanent work-force, preferring to leave this

Figure 3.4
until later because of implementation difficulties. Much of the contraction of non-tradables could fall on urban services, which, contrary to the assumptions underlying Figure 3.4, might be in the informal sector. With the latter characterized by a flexible labor market, the fall in demand will affect remuneration rather than employment, and this is exacerbated by the entry of workers made redundant from other non-tradable activities, seeking informal employment as a last resort.

3.35 CREDIT-MARKET EFFECTS In most African countries fiscal contraction is closely associated with monetary contraction, so that adjustment is usually associated with significant changes in the credit market. The credit markets invariably consist of a formal market, which is dominated by the organized, modern banking system, and an informal or "kerb" market. The former is directly subject to the restraints that are imposed under monetary contraction, while the latter is affected only indirectly. Typically, a credit squeeze will reduce the supply of credit in the organized banking system, so that many borrowers have to shift to the informal market to obtain their credit requirements. Since interest charges are fixed (and generally low) in the organized market, such borrowers face increased interest charges on their new debt. Interest rates in the kerb market, which are flexible, will therefore rise as the credit contraction in the formal market pushes more borrowers into the kerb market. Thus the effect of monetary contraction is to restrict the availability of credit in the organized market, and to increase interest rates in the kerb market.

3.36 In some programs, the fixed-interest regime of the formal market (referred to as a "repression" of the money market in the literature) is dismantled, so that interest charges are allowed to settle at their market-clearing values. Thus, in addition to any decrease in credit availability in the formal market, borrowers may face increased interest charges in the market as well. How this affects the various borrowing units, including the households under study in the SDA program, will clearly depend on their credit dependence, and on which of the credit markets they rely on for their credit needs.34

3.37 INFRASTRUCTURAL EFFECTS One of the interesting features of Bond's (1983) study is the relatively low long-run price responsiveness of total agricultural output in Africa, which is in contrast to evidence from elsewhere in the developing world (seeBinswanger, 1989: Table 2). An explana-

nation of why this is so must lie in what has been happening to the infrastructure of the region. In addition to markets, the meso-economy involves the infrastructure, and to obtain a complete picture of the real-economy effects of adjustment, it is important to take into account how these infrastructural elements have been affected. The evidence that is available suggests that agricultural output is particularly sensitive to both economic and social infrastructure (Binswanger, 1989, Lele, 1986, World Bank, 1989d, Moock, 1986, Jamison and Moock, 1984). This may be particularly true of the physical infrastructure in Africa, given the already large transport margins that usually apply.

3.38 If the expenditure cuts applied as part of an adjustment program adversely affect the provision of economic and social infrastructural services, there may well be a weak or non-existent response to the relative price signals the same program is communicating. These questions, along with issues relating to institutional changes at the meso-level (for example in the operation of marketing institutions), can only be properly addressed at the empirical (country) level. Our purpose here is to highlight their significance, and to ensure that proper account is taken of them in the SDA investigative work.

3.39 In assessing the impact of adjustment programs on infrastructure, care must again be taken to make the correct comparisons with the pre-adjustment period of economic decline. Chapter 2 has shown that with the compression of imports and the decline in public resources caused by poor economic performance, the effective delivery of economic and social services has almost always fallen sharply prior to the adoption of a comprehensive donor-supported adjustment program. If governments fail to adjust comprehensively, or they pursue adjustment insufficiently, then the economy's ability to generate sufficient tax revenues to finance infrastructural expenditures will remain weak. Without such revenues (and in the absence of external financial support) governments are forced to cut social and economic infrastructural budgets, whether they want to or not. Failure to adjust, or insufficient adjustment, reduces the government's room for maneuver in its budget decisions. In such situations maintaining infrastructure by increasing taxation is equally not a sustainable solution since without sufficient adjustment the taxable economic base continues its decline.
3.40 If reductions are made in social budgets then special attention must be paid to the pre-adjustment incidence of such expenditures, and changes in that incidence under adjustment. There are quite serious inequalities in access to public health and education services in many African countries. Reductions in such social expenditures, if they occur without major changes in the incidence of the service, will disproportionately affect the size of benefit received by better-off households who are the main consumers of such services. However, while these households may suffer larger cuts in such services than poorer households, the latter may be more critically affected, because even a small reduction could have a critical effect on their health status and human capital. Furthermore, the application of reductions in health budgets could be skewed towards cutting services mainly used by the poor. This is an empirical matter that can only be resolved through the careful examination of trends in social expenditures and their composition. Greater benefits to the poor from public health and education services can still be achieved despite reductions in total expenditures.

Effects of liberalization

3.41 Given the prevalence of import controls during the pre-adjustment phase, there is an obvious opportunity for many African governments to remove these controls and liberalize product markets. Trade reforms are currently under implementation in many structural adjustment programs in Sub-Saharan Africa. As Table 3.1 indicated, trade policy conditionality was present in over three quarters of adjustment loans to SSA countries (and import policy in particular has been a feature of many programs — World Bank, 1988a: 54-56). The principal objective of these reforms is to adjust the domestic relative prices of tradable goods into line with world relative prices. Thus, if governments had been relying on import controls, tariffs or export taxes/subsidies, domestic relative prices tended to deviate from world prices, causing a policy-induced distortion in resource allocation. Generally, import controls and tariffs create systematic biases against the export sectors, and against unprotected import-competing sectors. This is because the imposition of these controls leads to an appreciation in the real exchange rate. To correct for these biases, structural adjustment frequently involves the dismantling of import restrictions. This can take the form of replacing tariffs for import controls, and reducing the level and spread of tariff rates. The net effect is to shift the domestic relative price in favor of exportables and/or unprotected importables, and to lead to resource re-allocations accordingly.

3.42 Product-market effects

The meso-economic effects of trade liberalization can be readily analyzed using the Dornbusch/Collier model outlined earlier. In this case, \( P_1/P_m \) is raised through a discretionary policy which reduces \( P_m \). This will result in a decline in \( P_n \), assuming that non-tradables and importables are gross substitutes and that \( P_m \) is sufficiently flexible. Referring back to Figure 2.4, assume that the economy is in equilibrium at \( F \) (with the equilibrium loci being \( N^e/N^e \) and \( L^e/L^e \)). A trade liberalization would take the economy to a point such as \( D \), thus creating excess supplies of both money and non-tradables. \( P_m \) would therefore fall to clear the non-tradables market. These relative price changes (increases in \( P_1/P_m \) and \( P_1/P_n \)) will lead to predictable resource re-allocations towards exportables and out of both importables and non-tradables. At the same time, these resource flows will affect the factor markets, only now there will be a tendency for the real wage to rise and the rental rate to fall, so long as the factor intensity assumptions we made earlier are maintained (Edwards, 1988a).

3.43 Labor-market effects

As with other structural adjustment policies, trade liberalization will have predictable effects on the labor market, and these can be demonstrated using a slightly modified version of Figure 3.2. To trace the labor-market effects of liberalization, we must distinguish exportables from importables. The demands for labor in exportables and importables are summed horizontally from the left in Figure 3.5, with \( VMP_e \) indicating labor demand in exportables and \( VMP_p \), total labor demand in the tradables sector (note that demand for labor in importables is the horizontal distance between the two curves). As before, \( VMP_e \) indicates labor demand in non-tradables. Assume initially that the wage is fully flexible, but that \( P_m \) is inflexible downward (we shall review both assumptions presently).

3.44 The reduction of tariffs and/or controls will reduce the price of importables, resulting in a downward shift in \( VMP_p \) (with \( VMP_e \) constant). Assuming no change in \( P_m \) (so that \( VMP_p \) is un-
changed), this will lead to a short-run decline in the wage (from $W_1$ to $W_2$). The effect of this on the real-consumption wage is again ambiguous, depending on workers’ consumption propensities. The real wage in terms of exportables and non-tradables will certainly decline, but it will rise in terms of importables (the fall in the wage being less than the decline in $P_m$). Trade liberalization will therefore cause labor transfers out of importables and into exportables (where employment rises by $L_1L_2$ and non-tradables (employment increasing by $L_2L'_{2}$). The implications for income distribution and poverty are likely to be favorable — since it is more likely that workers in the favored sector (exportables) will be low-paid and unskilled as compared with importables.

3.45 If it is assumed that $P_n$ is flexible downward, then we know that with non-tradables and importables gross substitutes, $P_n$ will fall, thus shifting $VMP_n$ downward. The qualitative results just described (i.e., labor transfers out of importables into exportables and non-tradables, and an ambiguous change in the real consumption wage) hold even when $P_n$ declines, so long as the three goods are gross substitutes in consumption and production and that the income effect never exceeds the substitution effect (Edwards, 1988a: 173).

3.46 But suppose that the wage is inflexible downward, and remains at $W$, following the liberalization. This would create unemployment, equal to $L_2L'_{2}$ and no labor transfers into exportables and non-tradables. Obviously, over time, as capital moves out of importables into the X and N sectors, the labor demand curves will shift, thus restoring a long-run equilibrium and full employment. But until that happens, wage inflexibility has meant that liberalization results in labor unemployment. This result prompted Edwards (1988a: 178) to observe that “this possible short-run unemployment effect might call for a second-best argument in favor of a gradual reduction in tariffs,” the pace being dictated by the speed with which capital transfers across the sectors. However, there are arguments which suggest that if the pace of liberalization is too slow, the capital market may not pick up the signals (Mussa, 1986). This suggests that there is an optimal pace of liberalization which would minimize the short-run unemployment costs. This is discussed further in Part III.

3.47 Now consider the case of partial wage inflexibility, with the non-tradables sector hiring labor in the formal (fix-wage) labor market. Assume a fixed wage of $W^*$ in the sector, restricting employment to $Q_L^*$ (Figure 3.6). The initial equilibrium is at $y$, with $Q_L^*$ workers in exportables, $L_3L_2$ in importables and $L_2L_{2}'$ unemployed (while searching for protected jobs in non-tradables). The decline in $P_n$ following import liberalization shifts $VMP_1$ to $VMP_{n'}$, inducing a fall in the free-market wage (to $W_1$). This causes an increase in employment in exportables (to $OQ_L$) and a decrease in importables employment (to $L_2L_3$). With no change in non-tradables employment (note, we assume for simplicity that $P_n$ is fixed), search unemployment rises. Whilst the real-consumption wage in the fixed-wage (non-tradables) sector is certain to increase ($W, P_n$ and $P_n$ are unchanged and $P_m$ has fallen), the real consumption wage effect is ambiguous elsewhere. Note that liberalization leads to a conflict of interest among working people — those in the protected sector gain, whilst other workers may lose (and they certainly do not gain as much).
An alternative framework: adjustment with unemployment

3.48 The theoretical interpretation of adjustment used above views the process as a movement along the production frontier, with resource transfers between sectors as the main equilibrating mechanism. This assumes that there is sufficient wage and price flexibility to ensure that the economy remains at full employment and that there are no "structural" rigidities which prevent the smooth flow of resources between the sectors. Once we allow for the price and other rigidities, the orthodox model becomes less convincing, since switching effects may no longer be relied upon. The main equilibrating mechanisms of the "structuralist" school are changes in aggregate output and in income distribution (Taylor, 1983, 1988). It is not our intention here to review the range of these models, but rather to home in on the Keynesian model, which involves adjustments in output. In order to avoid cluttering the mind, our preference is to remain within the dependent-economy class of models, in which the fundamental distinction between tradables and non-tradables is retained.4 Dixon (1978), Cuddington (1980, 1981), Cuddington et al (1984) and Neary (1980) have applied the disequilibrium framework of Barro and Grossman (1971) to the dependent-economy case.

3.49 In the short-run version of the basic model, three markets are analyzed—two product markets (tradables and non-tradables) and the labor market. Given the small-country assumption, producers and consumers of tradables do not face any quantity constraints in their product market, simply because they can sell or buy as much as they wish in the world market at the given price. Although (under fixed exchange rates) the domestic price of tradables is fixed, no quantity rations are imposed in the tradables market.

3.50 Two main price inflexibilities are introduced into this framework — Pₜ and the money wage will be assumed to be fixed, so that market clearing can no longer be guaranteed. Since non-tradables are by definition only produced and consumed domestically, the fixed price (Pₜ) will lead to either buyers or sellers being rationed at the short end of the market. Moreover, rationing in one market will lead to further rationing in other markets, so that the firms who are unable to sell what they wish in the N-product market, will reduce their labor demand accordingly. In the labor market, therefore, demand will be below its normal level simply because of a ration in the product market. Similarly, if the wage is set too high, an excess supply of labor would ration households seeking to sell their labor services. They would only be able to sell what the firms are willing to hire. Thus, actual employment would be determined by the demand for labor, and unemployment would persist.

3.51 The central proposition of these models is that the failure of any market to clear will spill over into other markets. Thus, if there is excess supply in the labor market, households constrained in the amount of labor they wish to sell will reduce their demands for commodities, thus affecting product markets. In the same way, firms constrained in a product market (because of excess supply in the market) will be obliged to reduce output and employment. The effective demand for labor will therefore be constrained by the fact that firms are rationed in the product market. The net effect of such rationing in labor and non-traded product markets might be a continuing "disequilibrium" in which unemployment persists. Given the constraint faced by households in selling labor services, their effective demands for non-tradables will be lowered. Faced with this low level of effective demand, firms would be obliged to reduce output. This level of output would then lead to a constrained demand for labor, constraining household incomes and demands. And so on. The economy would finally settle at a point where the effective demands and supplies in the two markets (labor and non-tradables) are equal. But this temporary equilibrium is consistent with the persistence of non-zero excess notional demands in any of the two markets.

3.52 Assume that both Pₜ and W are set above their market-clearing levels, so that excess supply pervades both markets, and Keynesian unemployment is said to exist. What are the effects of adjustment under such rationed regimes? It should be remembered that with unemployment in the economy, adjustment need not require a reduction in aggregate absorption to reduce the trade deficit. This in principle can be achieved through devaluation alone, since the slack in the economy creates room for tradable output to expand and correct the external deficit. However, before considering the meso-effects of devaluation, we shall trace briefly the effects of a policy of expenditure reduction.
Fiscal policy

3.53 Since the levels of tradables output \( (Y_t) \) and employment \( (L_t) \) are determined by the firms' profit-maximizing behavior, aggregate demand management policies will have no effect on the sector. This applies even if the government reduces spending on tradables — firms will simply direct more of their output to foreign demand. The same is not true, however, for non-tradables. Decreased government expenditure on non-tradables (as part of a fiscal and monetary contraction) will reduce output in the sector according to the familiar multiplier process,

\[
dY_t/dG_t = 1/[(1-dD_t/dY_t)P_t] > 0
\]

where \( G \) is government spending, \( D \) the level of demand, and the denominator equals one minus the marginal propensity to spend on non-traded goods. A general fiscal contraction, involving, for example, a decline in government spending on both tradables and non-tradables, will have unambiguously beneficial effects on the trade balance. The reduced spending on tradables will reduce imports of tradables dollar-for-dollar. The decline in spending on non-tradables will reduce private-sector demand for imports because of the decline in employment and incomes generated by the non-tradables sector.

3.54 The effects, then, of fiscal contraction under the assumptions of this fix-price, Keynesian two-sector model are as follows: the trade balance will improve; incomes and employment in tradables remain unchanged; although the real consumption-wage in non-tradables remains constant, the level of employment falls. General fiscal contraction will not typically lead to an across-the-board decline in incomes. It will leave some incomes largely unaffected, but reduce the incomes of others drastically. When it comes to the poverty effects of expenditure reduction, therefore, it is critical whether the poor are engaged in sectors that are sensitive to reductions in aggregate demand.

Devaluation

3.55 Devaluation will lower the product wage in the tradables sector and therefore increase \( Y_t \) unambiguously. This has a directly beneficial effect on the trade imbalance \( (Y_t - D_t) \). But the increased incomes generated (through increased employment and enhanced profits in the tradables sector) will raise the levels of demand \( D_t \) and \( D_t' \). The increase in \( D_t \) will have an adverse effect on the trade imbalance, while the change in \( D_t' \) will stimulate the production of non-tradables.

3.56 Two important differences from the basic model therefore emerge in the case of Keynesian unemployment. First, a devaluation will not necessarily improve the balance of trade, the net effect depending on the relative magnitude of the different price and income effects. Secondly, the increase in \( Y_t \) is not at the expense of \( Y_n \), as in the full employment model. Under Keynesian unemployment, both \( Y_t \) and \( Y_n \) increase as a result of a devaluation, this being made possible by a reduction in the level of unemployment. The neat theoretical reasoning employed in the full employment model to trace the primary distributive effects of devaluation no longer applies. With output in both sectors increasing, and with unemployment falling, the net effect on incomes is quite different.

3.57 As \( W \) and \( P_t \) are fixed (by assumption) and \( P_t \) is raised through the devaluation, the real consumption-wage certainly declines. This induces the increase in employment in both \( T \) and \( N \) sectors. So in contrast to the orthodox equilibrium model above, the real-wage effect is unambiguously adverse in the presence of unemployment. The net effect on labor's real income share, therefore, will depend on the relation between the cut in the real consumption-wage and the increase in employment. This in turn depends on the real-wage elasticity of demand for labor. Even if it were shown that labor's share falls as a result of devaluation (with the increase in employment being insufficient to counteract the effect of the real wage decline), there can be no presumption that poverty has increased.

3.58 The beneficial employment effect predicted by this simple Keynesian model of adjustment arises from the fact that a devaluation is shown to be expansionary — it raises the level of aggregate economic activity by raising demand for tradable and non-tradable goods. However, there are reasons to suppose that this may not always be true — that a devaluation may in fact turn out to be contractionary. If devaluation shifts income distribution towards high savers, if imported intermediate inputs figure prominently in production costs, and if the general price rise following a devaluation reduces real money balances sufficiently, aggregate demand may decline. If this is
the case, devaluation offers very little for the working population—a decline in real consumption wages and an increase in unemployment.

3.59 Clearly, this is an empirical matter, but there are specific reasons for anticipating expansionary effects in Africa. This is because of the adverse output effects that arise from the extreme shortage of foreign exchange in the pre-devaluation period, during which the exchange rate is misaligned. Purchasers find themselves severely rationed in the foreign exchange markets, which in turn leads to rationed supplies of imported goods. If intermediate inputs are unavailable, there are adverse direct effects on output. But when imported consumer goods become rationed (or even simply unavailable), there can be adverse indirect effects on output, simply because producers are denied access to “incentive” goods (Bevan, et al, 1987b). As devaluation removes this rationing in the foreign exchange market, it restores the needed supplies of intermediate and “incentive” consumer goods, facilitating an increase in output. As Taylor (1988: 29) puts it, “a scenario along these lines helps explain the success of recent forex-intensive Bank/African Fund programmes in Sub-Saharan Africa”.

Other supply and institutional rigidities

3.60 The Keynesian model we have just considered embraces two sources of rigidity—fixed \( P \) and \( W \). The result is that policies have their effects mainly through quantity adjustments. However, once relative prices change in the model (for example, a depreciation in the real exchange rate), output is assumed to respond smoothly. In some respects, therefore, the Keynesian model does not go far enough in dealing with two distinctive characteristics of many African countries which influence this story—the slow supply response to relative price signals and the institutional rigidities that can influence the meso-economic outcomes of policy intervention.

3.61 Rigidities as they typically occur in African countries arise from three broad categories:

- price rigidities, which are the result of public-sector interventions in markets, leading to the emergence of parallel markets alongside official markets; to deal with such structural characteristics, a fix-flex-price model (after Taylor, 1983) would be appropriate;

- institutional rigidities, which go beyond simply the role that para-statal organizations play in the markets; these would include the prevalence of the household enterprise, in which production and consumption decisions are closely related (this is discussed in further detail below); as an illustration of this, the behavior of risk-averse small-holders might be quite different from “orthodox” enterprises, if they retreat into subsistence production;

- physical rigidities, which constrain supply and the capacity of smallholders to respond to market signals; we have already mentioned the importance of infrastructure in this context—if enterprises are not well served by economic infrastructure (and especially, physical infrastructure), their capacity to raise output may be severely limited.

The growth factor

3.62 In this section we develop our story further by examining more closely aspects of recent adjustment experiences in Africa. We shall highlight some important features which arise from the predominance of import-compression in many African countries.

3.63 An import-compressed economy is characterized by poor output performance, high inflation and extensive shortages. It must be emphasized that the pre-adjustment situation in the majority of African countries is almost never characterized by satisfactory growth in output or employment. The overall picture is not one of fast-growing economies going into recession because of a balance of payments and financial crisis, and because of the application of stabilization measures. In fact, donor-supported programs with their associated finance can raise total output, even in their early stages.

3.64 Aside from attracting increased bilateral and multilateral aid, policy reforms will increase the confidence of commercial lenders. The injection of foreign exchange from both concessional and commercial sources will raise capacity utilization where imports of intermediate inputs have previously been compressed. The distribution of this extra foreign exchange will vary depending on the sectoral priorities of the adjustment program, and the recovery in capacity utilization will be uneven across sectors. In most donor-supported programs agriculture and its supporting infrastructure as well as factories producing agricultural inputs are given priority. With the beginning of the recovery in capacity utilization,
output growth may occur in the initial stages of adjustment. The time taken to achieve the pre-import-compression level of output will depend on how far capacity utilization had previously sunk, and the magnitude of the foreign exchange injection.\footnote{3.65}

In their early stages donor-supported programs also begin to reform inappropriate policies which have caused the misallocation of resources — reducing the gap between domestic and world prices for export crops is one example. Figure 3.7 illustrates the case where domestic relative prices are set so as to discriminate against exportables. Assume that the world relative price is given by the price line $I$, whilst the imposition of import controls (or tariffs) shifts the domestic price to $II$. Domestic output is at $P_1$, so that exportables output valued at world prices is $OX_1$. Removing these distortions shifts the economy to $P_2$, and there is an unambiguous gain in the output of exportables to $OX$, valued in world prices (Kanbur, 1987c). This gain will contribute to the increase in total output in the early stages of the program. If this growth process is achieved during the first years of the program, some of the social costs can be reduced. Our earlier discussion presented a rather static picture of the adjustment process, and did not therefore fully capture the dynamics of an economy recovering from import compression, since attention was directed to the movement around the production frontier (in Figure 3.1) towards tradables.

3.66 Figure 3.8 introduces the growth effect. Again assume that pre-adjustment expenditure is at $y$ while the production point is $x$ on $NT^*$, thus yielding a trade deficit of $xy$. The real exchange rate $P_w/P_*$ is given by $AA'$. Our previous analysis showed that a program of demand deflation plus devaluation depreciates the real exchange rate to $BB'$, giving a new production point $z$, and the elimination of the trade deficit. The output of non-tradables falls to $N$, while that of tradables rises to $T$. However, if at $NT^*$ productive capacity is under-utilized, then an injection of foreign exchange, plus an improvement in resource allocation through the removal of distortions, would move the production frontier to $NT^*$ in the short-term — say the first year.\footnote{3.66} Policy-makers could then include this supply expansion in their calculations, and would accordingly need only to cut absorption to $OC$ rather than $OB$ in the case of no output growth. Similarly, the size of the nominal devaluation will be less. This adjustment package would yield a real exchange rate depreciation of $CC'$ (which is less than the depreciation to $BB'$ under no growth), and the new production point would be at $v$. Now compare the pre-adjustment output configuration at $x$ with the post-adjustment configuration at $v$. Total output is higher at $v$ (since the economy is now on $N^*T^*$), and the output of both tradables and non-tradables is higher, although because non-tradables have increased by less than the rise in tradables, the share of non-tradables in national output has fallen. The deficit has been eliminated and the structure of output shifted to tradables. We do not suggest that these movements will be smooth, since only some of the rise in tradable output can come from the restoration of capacity utilization. The issue of transitional unemployment raised in the previous section still applies.

3.67 It follows from this discussion that if growth occurs in the manner described — i.e., "tradable-led growth" — then there are four important points for the social costs of adjustment:

- the impact of adjustment on households receiving incomes from non-tradable activities will be less than in the no-growth situation, because there need now be no absolute fall in the output of non-tradables; but, overall, income distribution will still shift towards tradable producers and away from non-tradable producers;
- transitional unemployment will be less than in the no-growth situation, since sellers of labor will find a better market with the economy growing;
- because the real exchange rate depreciation is less under the growth scenario, the "knock-on" effect into higher nominal prices will be smaller than in the no-growth situation — so those house-
holds hit by the rise in nominal prices due to the increase in $P$, will suffer less of an effect;

- because the required cut in absorption is less under the growth-scenario, the government will have more leeway to protect social expenditures; social services are non-tradables and a degree of expansion in their facilities may be possible since some growth in non-tradable output is viable under tradable-led growth.

3.68 It must be emphasized that these benefits only occur because the growth process engendered by the adjustment package and the donor support is based on tradables taking a larger share of (growing) output. In Chapter 2 we saw that the growth process based on a rising share of non-tradables associated with macro-stabilization was not sustainable. Under the present scenario, tradable-based growth is sustainable because of the accompanying policy shifts and finance. The growth in output engendered by the foreign exchange injection and the restoration of capacity utilization is a one-off effect — full capacity utilization can be recovered, but further large increases in output will not occur until new investments make their effects felt. Similarly, policy-distortions against exportables can only be removed once, so the initial increase in output that their removal creates is also a once and for all gain (although it may take several years for all the output-effect to occur).

3.69 These reforms do, however, provide a policy environment that is conducive to productive investment, so in that regard their effects are lasting; and in the second phase of the adjustment process, planners will begin to engage in further policy-reforms, particularly major trade and financial liberalization. But the stock of policy-reforms that can be undertaken will gradually diminish (provided the adjustment program stays on course). Consequently, while some growth — perhaps sizeable — can be achieved in the early stages of the adjustment program when starting out from a base of capacity under-utilization, sustained growth over the medium to long term depends on the magnitude of the new investments made and their rates of return. However, the evidence reviewed above would throw some doubt on the growth and investment performance of many African countries undertaking structural adjustment. Why many of the countries reviewed in the World Bank studies that were mentioned exhibited such poor growth performance indicators is beyond the scope of this paper. It must be pointed out, however, that most countries implementing structural adjustment programs in Africa have been faced with multiple shocks, making growth an increasingly difficult policy objective to attain.
The determinants of welfare

4.1 Having established the main meso-economic effects of adjustment, we must now turn to consider the micro-economy — that is the households at the center of the social dimensions. Before developing a choice-theoretic model of household behavior, we shall begin with a much broader perspective. Our purpose here is to establish what are the most fundamental relationships in determining individual and household welfare. We proceed in stages, beginning with a careful examination of the individual, and moving on to consider household and then intra-household and inter-household interactions and activities.

Individual welfare

4.2 The “well being” or “welfare” of individuals in African societies is the outcome of complex economic and social processes. In this section we examine the relationships between physical performance, labor input, income-generation, and the consumption-investment decision. Our discussion is based on Figure 4.1 which sets out the main links between these variables in the form of a flow-diagram. While many linkages can be shown in such diagrams, we have chosen to show only the most important in order to simplify matters. Figure 4.1 describes a single individual who is able-bodied and working. We start with her physical performance which determines the amount of work she is capable of undertaking in any given period. Ignoring for the moment the role of assets, we can see from Figure 4.1 that she obtains an income, which may be in the form of wages or receipts from the sale of goods and services. An income can also be “imputed” for the value of the goods that she produces for her own-consumption. In the next stage goods and services are purchased for consumption, and some income is saved in order to undertake investments.

4.3 These consumption and investment decisions in turn feed back into her physical performance. The first feedback (indicated by the broken line in Figure 4.1) is that between consumption and physical performance. She needs goods and services for their “material characteristics” — for example the calories, proteins, etc. of food, the warmth afforded by clothing, etc. These, in combination with the personal characteristics of the individual (e.g., her metabolism), determine her physical performance. That performance or “functioning” (Sen 1987) has many dimensions. Most obviously the level of nutrition is critical in determining physical performance, although there is much debate over the exact relationship between, for instance, calorie intake and human energy (see Pacey and Payne, 1985: chapter 3). The ability to purchase health services is also crucial. These interactions between consumption, nutrition, health and work performance are likely to be critical for the SDA program, since there may be significant productivity gains from improving the well-being of the poor. Thus “poverty alleviation” may serve to further the aims of
The principal determinants of asset-accumulation in agrarian societies are the same as in all societies. Human and physical capital are two major sources of income and consumption. In this way, they multiply the income generated by labor alone. The return on agricultural production is allocated among different groups. The distribution of income among these groups is determined by the relative power of the various groups. The distribution of consumption is also determined by the relative power of the various groups. The distribution of income among these groups is determined by the relative power of the various groups. The distribution of consumption is also determined by the relative power of the various groups.
incomes in the form of interest and capital gains. Some durable goods, such as housing, yield rent-incomes. Owner-occupied housing is a major source of unearned income in developing countries, and rents must be imputed (see Grootaert, 1982a: 19). Lipton terms such additions to the income generated by work as "adders".

4.6 Figure 4.1 shows the returns of these different types of asset. Of course the distinction between income-adding and income-multiplying assets is not water-tight. Durable goods can also be said to play some role in multiplying labor productivity — for example, work efficiency will eventually fall if someone is homeless. Owners of physical assets may choose to rent them to others rather than use them directly. In such cases the owner adds the rent to her income stream while the borrower uses the asset as a productive input. It is therefore the relative importance that a particular asset plays in either directly adding to income or multiplying labor productivity that is the determinant of our two-fold classification. As we noted above, economic and social infrastructure are important elements of the meso-economy, in transmitting the effects of macro-economic policies to individuals. The design of the SDA program therefore must facilitate an examination of how changes in access to physical (or economic) and social infrastructure affect individual incomes through these multiplicative processes.

4.7 Although our exposition of Figure 4.1 has proceeded in linear fashion from the individual's performance to consumption and savings, we can see that with the addition of the feed-backs, a person's physical performance exists within a system, and both determines and is determined by the system. Obviously we have presented a stylized picture of the individual's circumstances in order to capture some of the most basic elements of her economic life. But of course the individual's welfare is not just determined by her own actions and resources. Most people take part in social units (or networks) in which decisions about production and consumption are made, and which act as conduits for the transfer of resources between individuals. Such participation can enhance (or diminish) the welfare outcomes for the individual. It is to these interactions that we now turn.

The economy of the household

4.8 People are usually located in several overlapping social networks at the same time. The nuclear and extended families are obviously two such social units. The household is another. A number of criteria can be used to define the household. Those commonly employed include: members have a common source of major income; they share a common source of food; and they sleep under the same roof or within the same compound (Casley and Lury, 1987: 163). But the criteria used to identify households must be relevant to the local situation, since their size and characteristics show wide variations by principal occupation, locality and country. The household may consist of a single family, but commonly in Africa they comprise several families, kin, and even persons with no kin relationship. It is possible for families to be spread between several households, either temporarily or permanently. For example, a married woman while young may continue to live in her father's household, while her husband lives under a separate roof.

4.9 The household is an important social unit because: (i) within it many of the decisions concerning individual members' activities and their consumption (and thus their welfare) are made, and (ii) its physical properties — the fact that it is a collection of individuals with an identifiable location — makes it a useful sample unit in survey work. However, it must be emphasized that households are embedded in wider social networks, their lineage group for example, whose actions partly determine their members' welfare. Given the importance of the household as a decision-making unit we need a conceptual framework in which to analyze its decisions over the allocation of resources. In formulating a conceptual framework for the SDA, two key issues are raised in the analysis of the household. The first is the role of the household as both the producing and consuming institutional unit. Whereas in much of orthodox economic theory, the firm is assumed to be the producing unit and the household the consuming unit, quite different institutional arrangements must be assumed for developing countries. This is especially the case in Africa given the predominance of agricultural activities in total employment, and the limited share of formal employment in most countries.
4.10 The second issue that has to be addressed concerns how household decisions are made — are they reached collectively or does one individual or group dominate the process? A related issue is whether we can correctly speak of a “household welfare function”, since there may be conflicts of interest within the household. In theoretical work, individuals are aggregated into households on the assumption that they possess identical preferences based on identical tastes (Deaton and Muellbauer, 1980). Household decisions are then analyzed in the same way as those of a single individual. Why people should group themselves in a household is usually analyzed as a secondary problem, but it is generally assumed that they make up a family. Sen (1983a:) calls this arrangement the “glued-together family”. Alternatively a “despotic family” is one in which the head of the family takes all the decisions, so that family behavior is simply a reflection of the head’s choice-function. These are polar cases — in the former, members of the household are assumed to share the same preferences, whilst in the latter, the preferences of the household head alone are relevant.

4.11 However, major problems exist in using either the concept of the “glued-together” or the “despotic” family. Crucially, preferences can differ widely between family members, arising particularly from age and sex differences. Given their different preferences family members will seek to allocate family-resources in different ways. The eventual allocation of resources will differ, perhaps substantially, from that under “glued-together” or “despotic” families. These difficulties apply with equal force to the unit of the household since large numbers of people can be involved in decisions over its collective resources. In such circumstances, assuming a single-household utility function is even less valid than making such an assumption for a single family-unit.

4.12 To get around these difficulties, two approaches may be taken. In Becker’s (1981) model of the “super-trader family”, members are assumed to maximize their individual utilities without regard to social norms. They trade with each other at implicit prices, and this determines the allocation of resources and such important decisions as marriage. This model could be transferred to the larger unit of the household. However, while these trades do occur within families, and more commonly in larger household units, we concur with Sen that to focus on such trades alone — and to assume that all the stringent conditions for market equilibrium are met despite the absence of actual prices — is an unsatisfactory starting point for analyzing intra-family and intra-household behavior.

4.13 A second approach is to assume that family and household relations contain both cooperative and conflicting elements, which can yield many different arrangements depending on the bargaining strengths of the individuals involved (Sen, 1983a: 375, Schultz, 1989: 10-17). This approach does not deny that social norms play a large role in determining the “space” within which such bargaining takes place. For example, women have a lower social status than men in many countries and this limits their bargaining power. Taking a bargaining perspective of the household allows us to focus directly on the inequalities that can be present within that unit, and to explain some important phenomena. For example, in certain situations we may observe an increase in household income (perhaps under adjustment) which does not yield an improvement in the nutrition of all household-members. This is difficult to explain using models in which all preferences are assumed to be identical. Starting from a bargaining perspective generates several hypotheses — for instance that the extra income accrued to one group of persons who failed to distribute it within the household (because the bargaining power of the excluded is weak), or that the new-income sources has altered the balance of household-power. A bargaining perspective allows us to see how advantages can accumulate through an improvement in one aspect of an individual’s bargaining position strengthening other aspects of that position. For example in the case of the respective positions of men and women in household activities:

4.14 A better deal for the male in one period may, inter alia, include a better role in the division of labor with better training and more profitable job experience, and these may lead to a better placing in the next period’s bargaining. Certain “traditional” arrangements may emerge, e.g., women doing housework and being able to take up outside work only if it is additional; with time, these inequalities may solidify (Sen, 1983a: 375).

4.15 In addition, taking a disaggregated view of the household allows us to focus on intra-household transfers as important sources of individual welfare. Some individuals are effectively
subsidized by “taxing” other household members. At the extreme ends of the life-cycle — infancy and old-age — those transfers may represent a person’s only access to resources. Furthermore, in any one period some household members will be less productive through ill-health or pregnancy. But not all transfers are made in order to safeguard the recipient’s minimum needs, and some individuals may command larger household “subsidies” through their bargaining power.

4.16 In Figure 4.2 we depict as a flow chart some of the components of the household economy. This is an elaboration of the single-person economy of Figure 4.1. The physical performance of those able to work determines their labor effort which, together with the returns on the household’s assets, generates income (either in the form of wages or market sales or we impute a value for own-production). That income is effectively taxed to provide transfers within the household, the remainder being distributed to the consumption of the workers and to savings. Such “household-taxation” may take different forms. For example, in households which are entirely self-provisioning, the harvest may be divided out, with some of the working members getting less food than others depending on their “tax rate”. Alternatively wages and the income from sales of produce may be pooled and then redistributed, or used to buy consumption goods which are then shared out but not in proportion to the cash contributions of the household-members. Not all income may be pooled — an individual may retain some or all of the income she earns, but nevertheless receive transfers from within the household.

4.17 Given the role of intra-household transfers, any effects that adjustments have on them will be of concern to policy-makers. Note that the importance of such transfers is revealed when households fragment, putting the nutrition and health of the non-working members in danger, if compensating transfers from other sources — the wider community and the state — are not mobilized. A final, and crucial, dimension must be added to our household framework. Time and other household resources must be allocated to the bearing and rearing of children, to the provision of health-services, to the education of household-members (for example in cultivation), and to the daily tasks of household maintenance such

Figure 4.2 The household economy
as cooking, cleaning, washing clothes, water-carrying, firewood collection as well as house-building and repair. As with the production of other goods and services, the sustained production of these items requires that the household’s physical performance be adequately maintained. Therefore in Figure 4.2 physical performance determines child-rearing and the provision of household services, and these feed back into physical performance so that we effectively have a “closed-loop” in that part of the flow diagram. The burden of these home-tasks usually falls disproportionately on females, with often deleterious consequences for their welfare. We return to the “gender-division of labor” in the next section.

Analyzing household behavior

Household models

4.18 Faced with a multiplicity of household decisions, we need a suitable framework within which to analyze them if policy effects are to be correctly identified. To an outsider much of the decision-making process within households can only be seen imperfectly through direct observation, since the presence of the observer can itself cause changes in household behavior. Moreover, only small numbers of households can be directly observed, a drawback for national policy purposes when adjustment effects are numerous and few (if any) groups are unaffected. Finally, policy questions often center on _quantitative_ issues: for example, not whether consumer expenditures change in response to price adjustments, but by how much. If, therefore, we are to get inside the “black box” of household decision making, we need techniques which relate the outcomes of these decisions (changes in economic activity, expenditures and time allocations) to changes in the “parameters” (or prices, markets and services) which households face. Within such a framework, different models of household decision making can be analyzed consistently, and cause and effect can be assessed in a quantitative manner. To do this obviously requires an accurate data set if the analysis is to be relied upon for policy making. Achieving such a data set is the subject of Part II.

4.19 The question therefore arises of what “choice-theoretic” framework is appropriate in the African context. Ideally, what is strictly required is a model of heterogenous non-pooling household units, in which individuals are to varying degrees responsible for production/income and expenditure decisions. At present, such a model does not exist, although there is a growing awareness of the need for an initiative in this direction (Fapohunda, 1988). The conceptual presentation which follows therefore takes the glued-together (or despotic) household as its starting point. And the empirical framework presented in Part II also relies on the household as the basic sampling unit. The SDA unit is concerned with intra-household effects, household effects and economy-wide effects of policy interventions. Given the present state of knowledge, the main empirical initiative is more cost effective at the household and economy-wide levels. This does not imply, however, that individual-level analysis and data are precluded. For example, it will be possible to identify the roles that individuals play in production decisions in African households, although it has to be admitted that expenditures will be obtained only at the household level. There is also a case for some additional investigations at the intra-household level, using anthropological techniques.

4.20 Our previous discussion has highlighted the dual role of the African household as both a unit of consumption and a unit of production. Not all households fulfill this dual role in Africa, but a majority of them do, and this creates special problems for predicting the consequences of policies. In developed economies production decisions are largely confined to the unit of the firm, while most consumption decisions are taken separately in households. However, within the majority of African households there is an interdependence between consumption and production decisions, so that decisions on output also directly affect consumption and labor supply, and vice versa. Crucially, changes in the parameters determining one aspect of household behavior also affect others. For example, a change in the market wage will not only affect a household’s labor supply, but may also affect its labor demand (because the household is a producing unit). Moreover, the level of home-production will be affected (because the returns on such an activity relative to market work will change), together with the level and pattern of household consumption. A similar chain of interrelated effects could be specified for other policy shifts such as alterations in consumer and producer prices. All these effects must be identified if a comprehensive as-
sessment is to be made of the welfare impact of policy changes.

4.21 These different facets of the typical household are well recognized by the new class of models of agricultural households. But the arguments apply with equal force to other household types, for example those in the urban informal sector. Much of the work in this area has been undertaken in the Asian context, a region which differs from Africa in several important respects, including relative factor scarcities and tenurial arrangements. But the studies of Africa so far undertaken have already yielded important insights: for example Low's (1986) analysis of food security in Southern Africa; Smith and Strauss's (1986) work on nutrition in Sierra Leone; and Braverman and Hammer's (1986) analysis of pricing policies in Senegal, to name a few. With these concerns in mind we proceed to outline a simple household model. The analysis is then extended to consider the distribution of welfare within the household. We should repeat the sentiments expressed above about the purpose of simplified or model representations of the real world. These should be an aid to our thinking on the issues, and not an intellectual strait-jacket.

A basic household model

4.22 The model presented here is a simple version of the Barnum and Squire (1979) and Singh et al (1986a, 1986b) class of models. The basic model assumes that household utility is maximized subject to a production function, a time constraint and an income constraint. The time of household members can be allocated to the household production of goods (for sale or own-consumption), to home work (concerned with household maintenance and reproduction), to (labor) market work, and to leisure. These models therefore take a "full income" (Becker, 1965) approach to household welfare analysis.

4.23 Consider the simplest case in which the household has a single utility function (equivalent to the "despotic" or "glued-together" household, discussed earlier). Further assume that the household can either produce or purchase a commodity — labelled Y on the vertical axis of Figure 4.3. The horizontal axis measures household time. The equilibrium of the household in production is given at point a, where w/p (which is the real wage) is tangent to the household production function (OY). The household produces Y1 units of output using L1 units of its time. The household's equilibrium in consumption is given at point b, where w/p is tangent to the household indifference curve. We see that the household is willing to devote L2-L1 units of its time to market work in order to obtain Y2-Y1 units of good Y through market purchases. The household has a maximum of Lmax units of time at its disposal, and so the remaining time Lmax-L2 is free for other activities. This segment could be labelled "leisure", but since the household has to produce non-purchased goods and services (Z-goods such as child care, food preparation and so forth) we label this segment "home work", although it will inevitably contain some pure "leisure" time as well. In this simple model, the household engages in three sets of decisions concerning:

- the allocation of its members' time between the production of Y, market-work and home work (which produces Z goods);
- the allocation of its non-labor factors of production between these activities;
- the allocation of its consumption between market purchases of Y and home production of Y.

4.24 One important feature of this model is the decision by households to buy or sell labor services. In the situation described, the household is assumed to sell its labor services in order to finance consumption in excess of its own-production. Alternatively, the household may be consuming at a point such as c (indicating a stronger preference for leisure), in which case it must be buying-in labor services. In this case, the production point remains at L1, but the household is seen to hire in labor services (L2-L1) in producing its output, thus generating for itself more available time for leisure and home work (L3-Lmax). It is immediately apparent that all these decisions

Figure 4.3
will be revised if wages or prices change in the
markets facing the household, an obviously key
point for analyzing the welfare impact of adjust-
ment.

Analytical models in the African context

4.25 If analysis is to serve the needs of policy,
then it is essential that the use and further devel-
opment of household models take full account of
African circumstances. Obviously this is an issue
which can only be resolved at the country level,
as analysts refine their techniques in the light of
local situations and policy needs, and as data
collection allows a more rigorous testing of hy-
potheses than is presently possible. Indeed,
sometimes large variations in the socio-economic
characteristics of groups of households will ne-
cessitate considerable model variation. House-
hold time allocations, expenditures and invest-
ment strategies adapt themselves to the ecologi-
cal and cultural context of the regions conned,
together with the policy framework within which
micro-units must take their decisions.

4.26 One major determinant of model struc-
tures appropriate to Africa is the characteris-
tics of the markets in which households engage. In
the model presented above it is implicitly as-
sumed that households engage in “complete
markets” for goods and labor services, so that
household decisions are made with reference to a
set of exogenous prices. Whether this condition
is met or not has important implications for
modelling the functioning of the household econ-
y, since the structures of such models are very
dependent on the assumptions made concerning
the markets that households face. The basic model
described in Figure 4.3 depicts the main features
of a class of models that has been developed for
analyzing households which face complete goods
and factor markets. These models are recursive in
character. First the household sets its level of
output by the maximization procedure that we
described above. To do this it needs information
on the price of output, the wage rate and techno-
logical relationships (described by its production
function) between inputs and outputs. In the
structure of these models, the household’s pro-
duction decision is made separately from its con-
sumption and labor supply decisions (Singh et al,
1986b: 7). However, consumption and labor
supply decisions are dependent on production
decisions because the latter determine household
profits, which are a component of income, and
which therefore affect consumption and labor-
supply. The model is recursive in character be-
cause the production equations are solved first
and the resulting solutions are fed into the house-
hold’s consumption and labor supply equations.

4.27 When a complete labor market exists, the
valuation of the household’s labor time is given
by the market wage. A household which can
neither sell nor hire labor will still value its labor-
time, but this will be done subjectively, and this
valuation will accordingly vary across house-
holds. But if they all face the same set of market
wages, the valuation of each type of labor is ex-
ternally given and is therefore the same for all.
This situation is depicted in Figure 4.4. Again we
have a household production-function (OY), and
household income equals its output since there is
no opportunity for market work. The household
can still sell its product or consume it entirely.
The equilibrium point for this household is at
point a where the marginal rate of substitution of
leisure for income (the “subjective wage”) is equal
to the marginal product of labor (Ellis, 1988: 110).
Since preferences, and thus the shape and posi-
tion of indifference curves, differ across house-
holds, the marginal product of labor will vary
between them.

4.28 The existence of a labor market permits a
separation within the overall utility maximiza-
tion, between the labor allocation to home work/
leisure versus income, and the labor allocation
related to home production, since the household
can hire-in or hire-out labor (Ellis, 1988: 122).
Similarly, the presence of a complete goods-mar-
ket allows the amount of output produced to be
determined independently from the amount con-
sumed since the household can always buy or
sell the good at the market price. When neither
Factormarkets nor goods markets exist the household must make all its producer, consumer and labor-supply decisions simultaneously: it can only consume what it produces and use its own labor (Singh et al., 1986b: 6). Consequently in models describing such households, the production solution cannot be made independently of the consumption solution (production is non-separable): the model must be solved simultaneously rather than recursively. 4.29 Separability also breaks down when markets are absent for some important goods which may be produced within the household. For example, if any of the commodities consumed or used as inputs into household health-production is absent, then to attain the desired level of health production, the household cannot rely on buying in the required amount of health inputs, and must accordingly divert labor resources away from home-production activities to produce the non-marketed commodities (Pitt and Rosenzweig, 1986: 158). The production of marketed commodities thus becomes dependent on consumption (of health goods). This is an important point if household welfare is to be analyzed in all its dimensions. 4.30 In short, it is obvious that great care must be taken in the assumptions made about market completeness, if analysis is to be appropriate to the African context. Aside from incomplete markets for labor services and goods (including health goods), the absence of markets to cover risks (insurance) and imperfect capital markets must be noted as a general feature of Africa. These issues apply with special force to the situations of small farmers, a key policy target group. Much market imperfection is related to low levels of infrastructural development, particularly transfer and communications, which aside from their vital role of distributing goods and services, bring buyers and sellers together and establish the information flows upon which all markets are based. Many of the services which provide the essential, but often overlooked, context for proper market functioning are “public goods”, provided by government rather than private markets themselves (Stiglitz, 1988: 98). The depletion of infrastructure, which is a common feature of many countries, has retarded the market participation of households. Participation has also fallen prior to current adjustment efforts because inappropriate policies have reduced the benefits of market participation and increased its costs. 4.31 Thus, the context in which analysis is to be undertaken is changing, and analytical developments must be sensitive to this. In the first place, of course, the model underpinning any empirical work can no longer be recursive, so that production and consumption decisions must be simultaneously determined. The household may not have any access at all to labor markets, in which case earnings functions of the kind usually estimated in household models become irrelevant. If households have partial access to a market (as for example, if casual work is offered only sporadically) some probability of such work needs to be assessed in making judgements about the effect of changing market wages on the household. It would also be necessary to re-specify any migration function which contains origin and destination income-earning opportunities for such households, since their perception of these opportunities will be affected by their lack of complete market access. The returns to information gathering for such households are likely to be significantly higher than for those in constant communication with the market on a day-to-day basis. The implications of model selection for data collection 4.32 Whether recursive or simultaneous models of households are chosen has important implications for data collection. The separability of the production side of recursive models implies that the production and consumption equations of the model do not have to be estimated on the same household sample. Data can be drawn from samples on different households, provided that each data set is representative of the area concerned (Singh et al. 1986b: 63). Thus, many recursive household models use existing farm management surveys supplemented with information from other sources, such as household budget surveys. However, the estimation of simultaneous (non-separable) models does require the collection of both consumption and production data on an identical set of households, because under these models consumption and production decisions are interdependent (Singh et al, 1986b: 63). 4.33 As we have seen, model selection depends to a large extent on our assumptions concerning the degree of market-integration of households. In many cases, market participation has fallen prior to current adjustment efforts because of policy-induced distortions. Data collection and
policy analysis under SDA auspices will often begin in the first phases of adjustment when these distortions are still unwinding. For these reasons simultaneous models will sometimes be required, and accordingly a survey instrument which collects data on a common household sample is necessary.

4.34 Although integrated household surveys are not essential for estimating recursive models, the size of their data requirements still favors the use of such collection methods on the grounds of survey cost. Using recursive models will still necessitate considerable data collection in most countries if all the important dimensions of household welfare are to be analyzed. In addition, estimating both recursive and simultaneous models on integrated household data sets allows tests of the models to be performed to establish the validity of their respective assumptions. This is important since in some cases it is likely that the analyst will be unsure of the comprehensiveness of the market-conditions facing households, or the structure of their decision making, and conclusions on this issue are themselves products of the analysis. The refinement of analytical models will therefore be an "iterative" process: tests of models will lead to their revision and to further applications and testing.

4.35 In summary, the above arguments favor the use of an integrated household survey, so that data are generated in a form suitable for the application of a wide selection of models. There are additional reasons which favor such a data-collection strategy. These are concerned with our ability to analyze the distribution of welfare within the household which is often a priority for policy. Accordingly, the next section turns to this subject and to its related data requirements.

The distribution of welfare within households

4.36 The model presented in the previous section assumes that a single household-utility function exists — in other words, the multiple-person household is analyzed in the same manner as a single-person household. Our previous discussion, however, has emphasized the importance of different preferences among household members and differences in their circumstances caused by both social and economic factors. This, as we noted, applied with particular force to the gender division of household labor, especially in Africa. We therefore need to extend our household model to provide some insight into this.

The gender division of labor

4.37 A gender-based division of labor exists in nearly all societies, with males and females specializing in different tasks, and with marked differences between the sexes in the allocation of time between activities. Of special interest in the African context is the gender division of labor which is frequently observed in rural farming communities, and which has been the subject of much recent research. In general, women tend to be relatively specialized in food crops as against cash crops. This division is particularly prominent in the forest areas of West and Central Africa: men provide 80 percent of the labor for commercial tree crops, but on average only 9 percent of the labor for the root food crops (Guyer, 1986: 396). This specialization reflects the fact that while women do some work on cash crop fields, their work on food crops, whether in jointly- or separately-worked fields, takes up most of their time.

4.38 In Figure 4.5, we drop the assumption that the household has a single utility function in order to consider a two-person household, consisting of a man and a woman, each with a specific utility function. In this model each person is responsible for producing a different good. The left-hand vertical axis measures the quantity of good Y which is produced by the man only, while the quantity of good X, which is produced by the woman, is measured on the right-hand vertical axis (the output of both goods is measured in the same units). This model can be taken to describe a farm household, but it could also apply to urban informal producers. The horizontal axis measures the time input of the man and the woman. We define a separate production function for both individuals (OX for the woman and OY for the man).

4.39 Given their relative productivities and the real wage that each can obtain in the labor market, the equilibria of both persons in production and consumption are shown. The production equilibrium for the man is given by point A, while his consumption equilibrium is point B. This gives him a time allocation of O-LM, for the home production of good Y, LM, for market work and L, for home-work and/or leisure. The woman's production and consumption equilibria are given at A' and B' respectively. Her time allocation is O-LF for the home production of good X, LW for market work, and L,w for home-work and/or leisure. As shown, the
woman would be responsible for more home-
work or could have more leisure than the man. Time-use studies in Africa (as well as for other
developing regions) show much longer working
hours for females compared to males (Birdsall
and McGreevey, 1983: 5), so it would be common
for the man to take a high proportion of \( L_{max} - L_{M2} \)
as leisure, with the woman taking most of \( L_{max} -
L_{W2} \) time for home-work; thus, in total the woman
would work longer hours than the man.67

4.40 Figure 4.5 shows just one possible out-
come among many for the division of labor by
gender in the household. The time-dispositions
of the two sexes, their participation in market
employment relative to self-employment, and
their levels of output are determined by the rela-
tive prices they face, their preferences, and their
respective production functions. As under the
basic household model, adjustment can change
all these outcomes through altering relative prices,
production functions and preferences. However,
the net effects of adjustment now become more
complicated, for the preferences, production func-
tions, and applicable sets of relative prices facing
men and women can change by different amounts
and in different directions. Thus, when men and
women face different sets of relative prices in
goods and factor markets, adjustment can affect
the gender division of labor within the house-
hold by changing the structure of those relative
prices. Similarly, uneven changes in the produc-
tion functions of men and women can occur due
to policy revisions. It is thus possible that the
welfare outcomes of adjustment for men and
women may vary by degree and sometimes, in
directions. However, intra-household transfers
— which are not represented in the model of
Figure 4.5 — may change in a compensating fash-
on, thus influencing the net outcome.

4.41 In the above model the gender division of
labor is determined by the comparative advan-
tages of the respective sexes; for example, males
undertake more market work than females be-
cause their wage-rate is higher (Gronau, 1973).
However, social obligations and customs may
predominate over individual preferences, espe-
cially for women, so that outcomes may not cor-
respond to marginal utility principles in some (or
many) cases (Ellis, 1988: 181). This can affect all
the segments of a woman's time disposition. For
example, women may be precluded from engag-
ing in certain household-production activities by
social customs backed up by community sanc-
tions. Other "barriers to entry" may be more
indirect, as for example where women lack ac-
cess to a factor of production important in a par-
ticular product-line. These circumstances may
dictate the respective specialization of men and
women in the production of goods Y and X in the
above example, rather than their comparative ad-
vantages. Similar constraints can apply to women
selling factor services, especially labor.

4.42 Women can be constrained in either home-
production or market work by the time involved
in reproduction and/or household maintenance.
Thus, in Figure 4.5 the women's time involved in
home-work may be constrained to amount \( L_{max} -
L_{W} \) which is greater than amount \( L_{max} -L_{W2} \) which
would be determined by her preferences and the
applicable set of relative prices. Social custom
may determine that males will undertake only a
limited amount of home-work (and of a particu-
lar type) so that male time has a low substituta-
bility for female time in home-work.

4.43 Socially determined constraints on the
time-allocation of women have two important
effects. First, these constraints induce allocative
inefficiency within the system: thus, insofar as
the labor resources of the household are not allo-
cated in accordance with its members' respective
c omparative advantages, output — and thus
household income — is lower than it would oth-
erwise be. Such inefficiencies may be an impor-
tant source of female poverty, as well as a con-
tributor to the overall poverty of a household.
Second, the low-substitutability of male and fe-
male labor time in specific activities reduces the
ability of women to re-allocate their time in ac-
cordance with changes in market and non-mar-
ket opportunities. This has important effects on
the welfare outcomes of adjustment, again for
women individually, and for the household unit.
We have listed the respective production functions, preferences and applicable relative prices of male and female household members as subject to change under adjustment. We must now add a fourth item to this list: namely, the social customs themselves which determine (and which are determined by) the social and economic status of men and women. These, too, can change under adjustment, since policy revisions, through altering the parameters under which household members control resources and allocate their time, alter the balance of household bargaining power. Programs of poverty alleviation implemented under adjustment will also have their effects on the latter. As the balance of household bargaining changes, so too may the wider social norms which it underpins. Consequently we must not paint too static a picture of the respective constraints under which men and women operate; adjustment can cause complex shifts in the structure of such bargaining. These shifts do not necessarily take long to occur (although this may be the case).

Mean household income as an indicator of welfare

To what extent does knowledge of a household’s mean income give us a reliable indicator of its members’ welfare? Consider again the example of a two-person household in which the man farms an export crop and the woman separately farms a food crop. Further assume that the return on labor is higher in export crop production than in food crop production. The male earns a higher income than the female. Say he earns $120 while the female earns $80: total household income is therefore $200 while the mean household income is $100. Now assume that out of his earnings the male transfers $10 to the female, and retains the rest. Post-transfer, the incomes of the male and the female are $110 and $90 respectively. The variance of the within-household income distribution is lower after the transfer than before.

The degree to which mean household income provides an indicator of an individual member’s income therefore depends on (i) how far their pre-transfer incomes differ and (ii) the size of the net transfers between them. If all income is pooled, the mean household income is a perfect indicator of its members’ incomes. With no pooling, the gap between the household’s mean income and that of the individual member rises as the variance of the within-household income distribution increases. In summary, when the pre-transfer income gap between the male and female is large and pooling is small, then mean-household income is a poor indicator of the female’s income (and thus of her overall welfare if we measure this by income levels).

Implications for inequality and poverty measurement

There are basically two broad problems arising from a research design which takes the household, rather than the individual, as its basic unit of analysis and data collection. First, it may preclude (or at least make difficult) a detailed investigation into welfare effects of specific groups within the household (such as females or children). This is particularly the case when data on individual-level expenditure or consumption are required. Second, the calculations of estimates of inequality and poverty (either for the whole population or sub-groups) will be biased, since they ignore intra-household income variations.

Haddad and Kanbur (1989) have assessed the direction and size of the biases arising from the use of mean household income rather than income at the individual level. They conclude that by ignoring within-household income variance, the use of mean household income is certain to underestimate the true variance of individual incomes, and this underestimate can be quantitatively significant (of the order of 30 percent or so). However, the effect on measures of poverty are ambiguous — using mean household income might over- or under-estimate poverty, depending on the underlying distributions involved, and depending on the poverty index selected. For example, taking the simple headcount measure of poverty, a poverty index calculated using mean household income will underestimate the true (individually-based) poverty level if the poverty line is less than mean individual income (which of course is equal to the average of all household mean incomes).

Haddad and Kanbur also demonstrate that it is unlikely that the patterns (or orderings) of both inequality and poverty measures will be affected by ignoring intra-household inequality. They conclude that the collection of individual-level data is important if levels of inequality and poverty and required. But if the object is to identify only the patterns of inequality and poverty across socio-economic groups,
there would seem to be little point in incurring the heavy costs of individual-level enquiries.

4.50 While the discussion so far has indicated the importance in some situations of intra-household income inequality, acquiring a complete and consistent data set on the incomes of individual household members with which to test hypotheses presents a number of formidable problems. In the example given above, the man and woman farmed entirely separately and had first claim on the respective produce or income. Thus, it was possible conceptually to distinguish male from female income. In practice, as we have discussed, while women often produce food separately, the sexes do engage in a significant amount of joint production. There exist, therefore, difficulties in allocating the income from those joint activities between the sexes. It may be possible in cases where only the man receives the cash income from the sale of the jointly-produced goods and makes a transfer payment to his wife, to apportion such income. But the nature of such payments and their irregularity make this a difficult task practically. More intractable is allocating the imputed income that comes from property jointly held, particularly the imputed rent from the home (Fields, 1980: 139).

4.51 Establishing the direct incomes (own-production and wage receipts) for individual members would be insufficient for intra-household income comparisons. To draw such comparisons one must have data on net intra-household income transfers. Without the latter few inferences can be drawn from direct incomes alone, unless there are special household characteristics which imply that transfers are zero or very low. Household members may have low direct incomes because they engage in economic activities specifically to supplement the income of the main breadwinners, on the basis that all income is shared (Fields, 1980: 139). These arguments point to considerable difficulties in constructing a data set on the intra-household distribution of incomes. These difficulties do not rule out collecting data on the particular income sources of individuals where this is possible (and achieving an aggregate household income data set requires this). In the SDA household survey prototype questionnaire design, income data are obtained from the individuals responsible for its generation, and then aggregated into a household estimate. The problem with household surveys is not so much the breaking down of income estimates by individual, but estimating income at any level, since income is notoriously underestimated in household surveys.

Household expenditures

4.52 The level and pattern of household expenditures is a crucial dimension of living standards. A household's expenditure on items of consumption and on intermediate goods for its economic activities can be subject to large changes during adjustment. The level of consumption provides a more direct measure of household welfare than income (Deaton and Case, 1987: 1). Expenditure includes outlays on commodities and services, both purchased items and those produced for own-consumption. Even if income data can be constructed for individual household members, some household members have little or no income of their own, because of their position in the life-cycle, and thus consumption levels are more relevant for assessing their welfare.

4.53 One method for analyzing intra-household issues is the equivalence scale technique, which uses data on total household expenditures to compare expenditure patterns across households with different demographic and gender characteristics (Deaton and Muelbauer, 1980: 191). The effects on household expenditures of differences in household composition can be represented in terms of "outlay equivalents", defined as:

"... the additional total expenditure that would generate the same change in expenditure on the good in question as does the presence of an additional person of each demographic type" (Deaton, 1987: 2).

4.54 Certain goods are usually consumed only by children, while for other goods it can be presumed that their consumption is mainly by adults (for instance alcohol and items of adult clothing). Additional children will not generate a direct demand for "adult goods", but outlays on such goods will have to be reduced to release resources for obtaining goods consumed by children: therefore, the outlay equivalents for additional children on adult goods should be negative. This result can be used to test for age and gender biases in the household's allocation of expenditures — a phenomenon of key policy interest. For example, the reduction in expenditures on adult goods will be larger following the birth of a
male child than a female child, if discrimination against girls exists (Deaton, 1987: 3). Similarly, the ratios of adults to adult goods can indicate whether there are differences by age and sex in the allocation of goods within the household. 4.55 The equivalence scale technique thus uses cross-section data to build a picture of intra-household expenditure inequality at any one point in time. If the technique is applied to data sets from successive years then an understanding can be gained of how intra-household welfare is changing as adjustment proceeds. It can be used to pick up changes in intra-household welfare which are being generated by adjustment policies which have different effects on different household members. For example, if a particular policy is benefiting males, and they are not increasing their transfers to other household members proportionately, then this can be identified by the equivalence scale method. The advantage of the equivalence scale technique is that it uses data on total household expenditures. To apply equivalence scales, expenditures do not need to be broken down by household members. Expenditure data can accordingly be provided by the household member with the most knowledge of household expenditures. In addition to gathering household expenditure data, it is desirable to undertake more direct measures of individual welfare, such as weight-for-age and height-for-age, particularly for children. Such anthropometric measures describe the "output" of the household’s activities. In the LSMS survey for the Côte d’Ivoire, for example the heights and weights of all household members are recorded (Grootaert, 1987: 138).

4.56 Why is the household used as the sampling unit in cases where policy-makers are concerned with the welfare of individuals? For example, data on child-nutrition could be collected by drawing a random sample from all the children in a given community, or using schools or health-clinics as points to locate individuals of interest. Much valuable data are currently collected on child welfare from sample units outside the household: for instance, the National Nutrition Surveillance System in Botswana reports (on a monthly basis) the nutritional status of all under-5s attending health clinics (Stewart, 1987: 266). These data are useful for policy because they are timely and because they are collected within an organizational structure that feeds information on deteriorations in nutritional status rapidly to executing agencies. Such systems are extremely valuable in times of rapid economic change in providing an early warning system. For many policy purposes we need to place information on the individual’s welfare in the context of his or her economic environment. Nutritional surveillance exercises can provide some important information on this environment: for example, the national surveillance exercise in Botswana disaggregates data on child nutrition on a regional basis, and further by villages, cattle-posts, and settlements (Stewart, 1987: 266). This information, along with data on food supplies and agricultural conditions in the areas concerned, allow executing agencies to monitor, analyze and intervene. Transfers, for example, can be mobilized in times of drought and more general distress.

4.57 However, such exercises do not permit the analysis of child malnutrition in relation to household characteristics. Policy-makers need to know not only the level of child nutrition within a community, but its distribution across households of differing characteristics. This need to relate individual characteristics with those of the household arises from the requirements of policy design. Since consumption data and anthropometric measures describe the end-results of the processes occurring within the household (of work and of giving and receiving transfers), such data of themselves tell us little about the causes of the observed welfare changes. These causes may lie on the consumption side of the household’s activities, the production side, or within the intra-household transfer mechanisms. Consequently, although consumption and anthropometric data alone may identify a problem — for example a deterioration in child nutrition — they are insufficient for analyzing its causes and for prescribing solutions.

4.58 Having anthropometric or expenditure data alone allows us to respond with special feeding programs and other such measures. But to design policy interventions which reduce the root causes of malnutrition requires an understanding of the economic activities of the social unit within which the child is located. Thus, the kind of data policy-makers require depends on the type of poverty alleviation strategies they intend to pursue. If the direction of attack is mainly to be through secondary income transfers, then data which signal a problem on the consumption side of the household are sufficient. But attacking
poverty through people’s primary incomes — generated by employment and self-employment — requires information on both the production and consumption sides of household activity. Whether the focus of poverty alleviation should be on people’s primary or secondary incomes will depend on the situation in hand. Accordingly, we need a data set that integrates all the main dimensions of household activity, and that allows analysis of within-household welfare issues when necessary.

Interactions between households

4.59 Although many important decisions are made at the household level, households are in turn embedded within wider social networks, whose functioning has important effects on them (Guyer and Peters, 1987: 206). The most important of these is the lineage group, comprising a cluster of households bound together by ties of marriage or blood, and under the control of an elder (Swindell, 1985: 33). Control of vital productive assets, such as land, is frequently vested in kinship groups, with the seniors determining the “use-rights” of its members. While such social groupings are most important in rural communities, large numbers of urban dwellers maintain their links with them. Such networks mobilize transfers to households in times of distress through taxing other network members. This reduces the variability of household income, a major concern for people living close to subsistence levels and for whom insurance and other intertemporal capital markets are unavailable (Grootaert, 1987: 32 and Binswanger and McIntire, 1987: 82). These characteristics have importance for analyzing both the welfare impact of adjustment and the policy interventions that can be taken for poverty alleviation, and we shall frequently refer to their operation.

4.60 While households undergo periodic changes in their size and composition (due for example to marriage or the death of the household-head), they may also divide or combine in response to “shocks”: illness of family members, displacement, drought, the creation of new market opportunities and so forth. The wider social networks may also suffer displacement, and the social structure in which households function needs to be viewed as a dynamic process. Various forms of inter-household co-operation can be noted. Within rural communities households frequently cooperate with each other over work arrangements — for example pooling their labor at harvest time, sharing child-rearing and food preparation. Households make “implicit” contracts with each other over the sharing of workloads, either on a regular basis, or to provide assistance to each other in times of personal distress. Such contracts may be underpinned by ties of kinship, although this is not always the case. Implicit contracts reinforcing reciprocal rights and obligations can exist over a large number of activities. By providing safety-nets they reduce risk, and make households less risk averse than if they operated on their own (Peters, 1986: 136).

4.61 The importance of affirming and strengthening ties between households will lead to the periodic distribution of gifts, in cash, food or manufactured goods. For example farmers sometimes distribute “harvest gifts” to important allies within the village (as described, for example, by McMillan, 1987: 306 in Burkina Faso). Such gifts often form important components of the “exchange-entitlements” of households and individuals, and household-survey questionnaires need to be designed to identify these. It is important to correlate such transfers with household characteristics, in order to analyze their role. Several hypotheses suggest themselves as to their function: transfers may take higher than average shares in the incomes of poor households or alternatively they may be disproportionately concentrated among wealthier households. Since such transfers provide the main means of “social security” in most countries, it is important to verify changes in their importance and the pattern of their distribution during periods of adjustment. Adjustment, through changing the incomes of givers and receivers, may generate important shifts in the structure of inter-household transfers: for instance poor families may find their social support weakened or strengthened by changes in the incomes of their donors.

4.62 Aside from transfers and the sharing of factors of production, households also interact with each other through the market — more specifically through the product, labor and credit markets. Thus some of the contracts within the household’s village may be explicit — for example over the provision of labor services, or share-cropping arrangements. Credit markets will also exist within villages. The relative role of market and non-market mechanisms in the allo-
cation of goods and services across communities will vary by region and by country. As development proceeds, market transactions will increasingly take over from other ways of allocating resources. As farm-productivity rises, more output will become available for sale, and greater opportunities arise for selling produce as private and public investments are made in marketing. The extension of public goods such as transport facilities will increase the access of remoter regions to markets. In turn the greater availability of modern consumer goods will increase the incentives to sell produce, and to move from barter to a greater use of money. Finally, urbanization strengthens the extended community, and households resort more frequently to market transactions with each other.

4.63 The increased role of market transactions in the distribution of goods and services will lead to further specialization in the division of labor, as greater market opportunities allow households to concentrate on their comparative advantages. Some will find that they no longer need to produce certain goods themselves because these can be obtained more favorably through the market. Activities that were undertaken in order to minimize the risk of shortfalls in income may be cut back if households perceive that the market offers less income-risk, or provides a better safeguard than own-production. Changes in the size and characteristics of product markets will in turn lead to changes in both the size and characteristics of factor markets. The development of product markets has been one of the factors behind a reduction in the importance of communal mechanisms of allocating resources within African societies.

4.64 In sum, households will interact with other institutions, and not only other households. Depending on the circumstances of the country and region concerned, they may enter markets in which firms are buying and selling — both product and factor markets. In the case of the credit market, they may have direct dealings with the organized banking system or other financial intermediaries. Of course, they may be taxed by local or central government, or receive services provided by the state (such as agricultural extension services, marketing services, health and education services, etc.). Thus, we must distinguish the market and non-market interactions between the household and other households, firms, and the state. We emphasize these otherwise obvious points because adjustment, together with the macro-economic disequilibrium that precedes it, causes changes in the structure of markets, the relative roles of market and non-market mechanisms in allocating resources, and the degree of market integration of households. Changes in the “market-parameters” under which households operate can have profound effects on their welfare.

The meaning and measurement of poverty

4.65 As poverty and its alleviation is certain to be at the center stage of the SDA endeavor, the SDA program must adopt measures of poverty which will be helpful in guiding policy-makers and in facilitating links between poverty and the main structural characteristics of the economy, which are themselves likely to be influenced by structural adjustment programs. In any measure of poverty, two broad issues present themselves: first, the establishment of the poverty line; and second, the choice of a single index to measure poverty.

4.66 The literature on poverty has been concerned with the respective merits of absolute and relative concepts of poverty (Sen, 1983b reviews much of it). Recent work has questioned the usefulness of absolute poverty, since what constitutes poverty in one society (at one point of time) may not be the same for another society (or the same society at a different time). In restating the “absolute” case, Sen (1983b) distinguishes between the “capabilities” which incomes confer, and the goods and services needed to produce them. Poverty, according to this view, is the absolute absence of certain critical capabilities — including avoiding shame, community participation and self respect. But the bundle of goods required to provide these capabilities varies from place to place and from time to time, and it is in this respect that poverty is relative. If the absolute aspect of poverty is ignored, as Sen (1983b:156) puts it, “poverty cannot — simply cannot—be eliminated and an anti-poverty programme can never really be quite successful”.

4.67 The debate on whether absolute or relative concepts are appropriate is simply about the appropriate choice of poverty line, and this is certain to be a subject that would need further clarification at each country level. Biases in the measurement of poverty (for example, the neglect of within-household income variance discussed above) tend to become more problematic when
the poverty line is considered sacrosanct, since this implies that the level of poverty has some real policy significance. On the other hand, if the poverty line selected is somewhat arbitrary (as for example, in selecting a line which gives 30 percent of the population as poor), the biases often become less serious, since they rarely affect the pattern or ranking of poverty across groups in the society.

4.68 But this is only one, albeit fairly crucial dimension to any measure of poverty. Apart from the selection of the poverty line itself, the degree of poverty will depend on three basic factors:

- the incidence of poverty, as measured by the numbers in the total population living below the poverty line;
- the intensity of poverty, reflected in the extent to which the incomes of the poor lie below the poverty line;
- the degree of inequality among the poor, in that transferring income from the poorest to the better-off poor should raise measured "poverty".

4.69 Any index or measure of poverty should ideally reflect all three of these dimensions. Moreover, for our purposes, we need an index of poverty which can be used to assess the effects of adjustment. Since adjustment frequently entails changing the sectoral composition of output — from non-traded to traded goods, from import competing to exporting sectors, and favoring agriculture — our poverty index must be decomposable across sectors (Kanbur, 1987a). We propose that the typical presentations of poverty (usually by region in a country) should be supplemented with measures by socio-economic group, the choice of groups being partly determined by the relation each bears to the markets and other elements of the meso-economy. In other words, if the structural adjustment programs feature changes in the price of a particular food (say maize), it would be important to estimate measures of poverty for maize producers and consumers separately from other groups. The measure must therefore be sub-group decomposable.

4.70 A useful index which meets this requirement is suggested by Foster, Greer and Thorbecke (1984). Their class of poverty index takes the following form,

\[ PV_{a} = \frac{1}{n} \sum_{i=1}^{q} \left( \frac{Y_{p} - Y_{i}}{Y_{p}} \right)^{a} \]

where \( Y_{p} \) denotes the poverty line, \( n \) the total population and \( q \) the number of income earners below the poverty line. Essentially, the index takes the poverty gap of each poor person as a fraction of the poverty line, \( \left( \frac{Y_{p} - Y_{i}}{Y_{p}} \right)^{a} \), raises it to the power \( a \), and sums over poor units. Not only does this index take into account the incidence and the intensity of poverty, it is also sensitive to the degree of inequality among the poor. This is governed by the value of \( a \), which determines how sensitive the index is to transfers between the poor. For \( a > 1 \), transfers from the poorest to better-off poor groups will increase the measure of poverty.

4.71 This class of poverty measures is flexible in two important respects. First, \( a \) is a policy parameter that can be varied to reflect correctly poverty "aversion". If \( a = 0 \), it can be readily shown that \( PV \) simply becomes,

\[ PV_{a=0} = \frac{q}{n} = H \]

where \( H \) is the head-count ratio, i.e., the proportion of total income-receiving units below the poverty line. Note, if \( a = 0 \), it simply means that the measure is entirely indifferent to how poor each poor unit is — it does not matter how far below the poverty line each poor person is. Therefore, with \( a = 0 \) the index is simply the head-count ratio. Alternatively, with \( a = 1 \), the poverty index becomes,

\[ PV_{a=1} = \frac{1}{n} \sum_{i=1}^{q} \left( \frac{Y_{p} - Y_{i}}{Y_{p}} \right) = HI \]

where

\[ I = \frac{1}{q} \sum_{i=1}^{q} \left( \frac{Y_{p} - Y_{i}}{Y_{p}} \right) \]

is the "income-gap" ratio. \( I \) is simply the average of the poverty gaps expressed as a fraction of the poverty line. \( PV_{a=1} \) or \( HI \) therefore takes into account how poor the poor are, and reflects both the incidence of poverty (as reflected in \( H \)) and its intensity (as given by \( I \)). It also measures the amount of income, under perfect targeting, that needs to be transferred to the poor in order to exactly eradicate poverty. However, the \( PV_{a=1} \) measure is insensitive to income distribution among the poor. Transferring income from the poorest unit to a richer (but still poor) unit will leave \( PV_{a=1} \) unchanged (as both \( H \) and \( I \) will be unaffected). For this to be reflected in the index, greater weight has to be given to the poorest income earning units. This can be achieved in
this class of poverty indices by assuming values of $\alpha$ in excess of unity. With $\alpha > 1$, a transfer of one dollar from the poorest units to other (better off) poor units will increase the poverty index. In short, the $PV_\alpha$ class of poverty indices suggested by Foster, et al permits the user to specify $\alpha$, and thereby select an index which reflects his or her aversion to poverty.

4.72 This class of poverty indices is flexible also in that it is sub-group decomposable. The “overall” index of poverty can be shown to comprise the summation of poverty indices among all the sub-groups in the population. If the study population consists of $m$ groups or sectors, then,

$$PV_\alpha = \sum_{i=1}^{m} x_i PV_{\alpha_i}$$

where $PV_{\alpha_i}$ is the poverty index of group $i$ and $x_i$ the population weight of group $i$ ($i = 1, \ldots, m$), $\sum x_i = 1$. This decomposition property has proved useful in analyzing poverty changes in the SDA program, since it generates both overall indices in each country, and breaks these indices down for each of the socio-economic groups and sectors under consideration (see Kanbur, 1988, for a recent SDA analysis along these lines).

Household classifications

Socio-economic groups

4.73 Classifying households according to their poverty status is only one among many schemes that are useful. As a general rule, the use of income as a classifier (whether it be classifying households throughout the distribution as in the case of size distributions, or only at the bottom end as with poverty measures) suffers from shortcomings when applied to developing countries. The main problem is that income groups are very heterogenous in nature — perhaps more so than in developed countries. As a result, they tend to be unhelpful in guiding practical policy interventions. It is no use calling for measures to improve the lot of the poorest 10 percent of the population, if their social and economic characteristics are not known. The SDA program must therefore go beyond analyses using income distributions, and classify households according to other criteria, the objective being to group households into reasonably homogenous groups. Variations (say in income or expenditure) within groups should be significantly smaller than those between groups. In this way, there is more scope for analyzing behavioral responses to policy changes. Finally, since households are usually multi-individual units, a classification should be chosen which is applicable to all individuals in a given household or, alternatively, to the household as a whole, otherwise the fundamental notion of the household being a “unit” is lost.

4.74 The following criteria are frequently adopted in classifying households (these are discussed in greater detail in Part II):

- Wealth, income, or expenditures;
- Social characteristics, such as race, religion, language;
- Location, beginning with rural and urban divisions, but also reflecting policy and planning practices which sub-divide the country into region;
- Characteristics of the household head.
5

The effects of destabilization and adjustment on households

5.1 Thus far, our analysis has traced how destabilization and adjustment leads to significant meso-economic changes in both markets and infrastructure. We have also explored the main features of the household economy, including those factors which have a bearing on the welfare of individuals within the household. We come now to bring these two elements together, by tracing how the meso-economic changes we have observed are likely to affect the household and the welfare of its members. Again we should reiterate that the purpose here is to outline a way of structuring thinking on these issues, rather than pretending to represent household effects in their entirety throughout the region.

Household incomes under macro-economic disequilibria

5.2 In order to trace the effects of this policy scenario on household incomes, assume a one-off rise in the money supply due to a rise in the budget deficit. Ignore for the moment the issue of whether this policy is pursued in successive years, and assume that the level of national output is fixed. We employ a number of simplifying assumptions in order to illustrate the most important distributional effects. At the end of this section we discuss these assumptions further, but show that while relaxing some assumptions increases the complexity of the processes, the conclusions of the simpler model are not fundamentally altered. Recall that excess monetary expansion will lead to an increase in the price of non-tradables, while tradable prices will remain constant, under the assumption that their domestic prices are given exogenously by world market conditions (and that there is no change in the terms of trade).

5.3 We begin with household-based production activities since these have been identified as one of the most important sources of household income in Africa. The value of a household's output is given by the price of the good or service multiplied by the quantity produced. Prices are exogenous to households but they do have some control over the level and composition of their output. In the very short run, when households cannot adjust their allocation of factors between activities, they will be confined to producing the same goods and services that they did before non-tradable prices began to rise. Thus, in the very short run, with the composition of output fixed, the effect of the monetary expansion on the value of household output will be determined entirely by the shift in relative prices towards non-tradables. The nominal incomes of households producing non-tradables will accordingly increase. We can label this the impact effect. Nominal incomes could remain constant in the tradables sector if this sector does not use non-tradables as intermediate goods (and given that tradable prices remain constant). Otherwise they will fall.

5.4 One outcome of special interest is that, holding all other parameters constant, the distribu-
tion of income will shift in favor of urban households during a period of destabilization, since they engage more in the production of non-tradables than do rural households whose production activities are concentrated on tradable agricultural products. Urban households producing items which are protected through quotas will gain the most, since the scale of their protection rises as the real exchange rate appreciates. Given that it will be urban households with the largest factor endowments that receive the largest gains, we can expect a rise in the level of income inequality in the urban sector. This, combined with the fact that most poor households are typically located in the rural sector, will mean that a rise in the overall level of income inequality is a likely outcome.

5.5 As time elapses households will attempt to shift resources into the production of non-tradables as a result of the destabilization, and possibly importables if the terms of trade have declined. Within the household-based production unit, labor is the easiest resource to re-allocate—the household's capital resources are sunk in equipment which may not be so easily transferable to non-tradable activities. The period during which only some factors can be re-allocated will be labelled the short run, while the long run begins when it is possible to re-allocate all the household's factors. In the long run non-tradables will have taken a higher share of national output. Domestic production will accordingly meet a lower proportion of national demand for tradables. Since we have assumed that total national output is fixed, output of non-tradables will be higher, and output of tradables lower, in absolute terms.

5.6 Incomes from household-based production activities will be affected not only by the prices at which households sell, but also the prices at which they buy. First, consider purchases of intermediate goods. Recall that in theory, if importable goods are pure tradables, their domestic prices will remain unaffected (assuming a fixed nominal exchange rate) by the government's monetary expansion, since the market for importables immediately clears at given world prices through further imports in response to extra domestic demand. Thus, producers of non-tradables find that the value added (and hence their implicit profits) of their goods and services is increasing, since their retail prices are rising but the costs of their imported intermediate inputs are remaining constant. The effects within the tradable household will depend on whether they use non-tradables as intermediate goods. If they do not then their value added — and therefore their nominal income — will be unchanged. Those households using non-tradables as intermediate goods will see their value added and nominal income fall.

5.7 Households will also consume tradable and non-tradable goods in different proportions. If non-tradable producing households consume only their own non-tradables, and thus purchase only tradables, then their cost of living basket will remain unchanged. This, together with the increase in the price of the goods they sell, will unambiguously raise their real incomes. Non-tradable households will be hit by the increase in the prices of their purchased consumer-tradables and this, together with the unchanged prices for the goods that they sell, will unambiguously reduce their real incomes. The worst-hit households in this sector will be those who purchase large amounts of intermediate non-tradable goods and have large shares of non-tradables in their consumption baskets.

5.8 In summary, we will observe a shift in real income shares towards households in non-tradable sectors. With terms of trade shocks also causing macro-disequilibrium, relative prices were also shown to move in favor of importables. The relative price configuration of the move from A to D in Figure 2.2 would affect the various households, depending on the proportions of their sales and purchases of importables, exportables and non-tradables. Some households may find themselves not only switching production to non-tradables, but also to protected importables. What will happen to poverty? While the rise in real incomes in the non-tradables sector will be unevenly spread depending on the ownership of factors and so forth, low-income households will benefit, and this may be sufficient to bring some of them above a defined poverty line. How many of them cross this threshold will depend on the distribution of income within the sector, and the magnitude of the real income increase among poor households.

5.9 On the other hand, poor households engaged in the production of tradables (and especially exportables) will find their real incomes declining, with a consequent increase in poverty. The net effect on poverty in the country will therefore depend on the relative strengths of these oppos-
ing effects, and on the ability of households to switch from tradable into non-tradable (or protected-importable) activities (Kanbur, 1987c, Demery and Addison, 1987a). One hypothesis is that non-tradable goods, since they consist mainly of urban services and domestic manufactures, take a higher share in the consumption baskets of wealthier households than poorer households, whose consumption basket is more heavily weighted to (tradable) foods. So with tradable prices constant, and non-tradable prices rising, the cost of living of better-off groups is more affected than the cost of living of the poor. This may offset some of the negative impact on the poor resulting from their high participation rate in tradables.

5.10 What of households selling factor services? Under the impact effect with no factor mobility between the tradable and non-tradable sectors, factor sellers in the non-traded sector will gain higher money incomes since the demand for all factors will rise. If labor is underemployed in the sector then most of the initial benefits to labor will accrue in the form of higher employment rather than higher wages. Over the longer term as factors become mobile, factors will flow from tradable to non-tradable sectors. Recall that public and private service employment is classified as non-tradable while formal manufacturing — and to a degree some informal manufactures — are afforded sufficient protection to make them non-tradable goods. In such circumstances the direction of labor flow will be towards public and private service employment together with non-tradable formal and informal manufacturing, and away from tradable agriculture.

5.11 The final outcome for sellers of factor services will depend as we have shown on the structure of the labor market. In the simplest case, the short-run effect was determined by their consumption propensities and in the longer run by the relative factor intensities of these activities. Ranking sectors by factor intensity is a difficult business in developing countries. We know that most smallholder agriculture is very labor intensive in Africa, and uses relatively little capital. Informal manufacturing is also labor intensive, and likewise the public and private service sectors. However, the formal manufacturing sector is generally characterized as relatively capital-intensive due to the promotion of cheap capital imports through overvalued exchange rates and explicit subsidies to capital users. So the final outcome for factor-sellers will depend on the shares of these activities in the non-tradables sector. If non-tradables amounted to only labor-intensive informal activities then the long-run effect on the wage of the shift to non-tradables would be small. But if non-tradables are dominated by capital-intensive manufactures then the wage would fall in the long run. However, if sections of the labor market are subject to some form of imperfection, the real-world outcome would be different, depending on which sector was affected.

5.12 The analysis of this chapter has so far been conducted under the assumption that while the composition of total output can change, the level of output itself remains fixed. If we relax this assumption and assume that the government either maintains or raises its budget deficit in successive years, and thus continues to add excess money balances to the system through financing its deficit from bank borrowing, then the level of output may increase in a Keynesian manner through the pull of rising aggregate demand. The demand for both tradables and non-tradables will grow, inducing a growth in the output of both types of good. Thus, we may observe a pattern of economic growth in which tradables take a declining share of total output, but their absolute production level rises. So households producing tradables may see their incomes increasing, if this growth process is achieved, but not by as much as households in non-tradables.

5.13 However, such demand-induced growth is unlikely to be sustainable for a long period of time in most African countries because of the supply constraints under which they operate. While these supply constraints can be reduced by appropriate investment strategies, public investments in Africa have generally yielded low returns during periods in which macro- and micro-policies have been inappropriate (World Bank, 1986a: 1). Thus, a rapid reduction of supply constraints is unlikely during the policy scenario under discussion, especially given the disincentive effect of the real exchange rate appreciation on agriculture. With domestic supply increasingly constrained, and demand continuing to expand, the inflation rate will eventually accelerate, and may generate its own momentum as price- and wage-fixers adjust their forecasts upwards.

5.14 The acceleration in nominal inflation will hit households with a high dependence on market
purchases to meet their needs. Poor urban households, while they may have benefited from the swing to non-tradables, are likely to be the most substantial losers from high inflation rates. Rural households dependent on wage-employment may also lose, although many are still paid predominantly in food in Africa, which will reduce the effect on them. Subsistence farmers will be relatively protected in good years, but may be very vulnerable if drought drives them into a food market which is undergoing rapid inflation. Inflation will also redistribute income among savers. Households which hold their savings in cash will be hit the hardest. Deposit rates are set by governments in many African countries and have not generally kept up with the rate of inflation. Households dependent on such income will lose out unless they are able to transfer their savings into foreign currencies. Loss of confidence in the domestic currency as a store of value will encourage capital flight, both legal and illegal. Wealthier households have more access to international stores of value and will adjust the share of domestic financial assets in their portfolios. Households holding their savings in commodities — e.g., cattle — may actually gain as the prices of their savings assets rise.

A framework for considering the household effects of adjustment

5.15 Chapter 3 established the effects of adjustment policies on the meso-economy. To draw the threads of our argument together, we now summarize these effects, and describe briefly how they will influence households. The main meso-effects of the adjustment policies reviewed here are:

- an increase in $P_t/P_s$ in product markets;
- possible changes in relative prices within the tradables category — e.g., formal and informal tradables;
- resource re-allocations from non-tradables into tradables;
- a short-run increase in $W/P_s$ and decrease in $W/P_t$;
- short-run real consumption-wage changes which are dependent on consumption propensities and the structure of the labor market;
- long-run changes in the real wage which depend on factor intensities;
- short-run or transitional increases in labor unemployment; also changes in search unemployment;
- increases in domestic interest rates, and cuts in credit availability;
- cuts in government expenditure with implications for economic and social infrastructure.

5.16 Evidently, the effects of these changes on the various socio-economic groups in any country undertaking structural adjustment will be quite complex. They will depend on the choice of policy instruments, the nature of the markets involved and of the institutional setting of the meso-economy, and the characteristics of the households in each group. Consider households which possess only their labor — that is, those households which comprise the urban poor and the rural landless. For such households, the labor market and the social infrastructure will hold the key to how they are affected by adjustment. Under an expenditure switching adjustment strategy, the short-run effect on the real wage will depend on the consumption behavior of the households involved. Since we know that $W/P_t$ will decrease and $W/P_s$ will increase (assuming full employment), households which consume mainly non-tradables may find their real incomes rising in the short run, whilst those consuming mainly tradables will face a cut in real incomes.

5.17 Added to these real-wage effects, households may face deteriorations in employment prospects, especially during the transition period. Households experiencing unemployment among their members will obviously respond and seek job placements in expanding sectors. This may require some additional skill acquisition, or it may involve geographical migration. The time such households take to perceive the need for these responses and their capacity to make the adjustments are critical in determining their share in these transition costs. It may be that for certain households, some advantage may be gained from direct micro-interventions (such as retraining or relocation grants) by the government. This type of assistance will reduce the transition costs, reduce the welfare loss of such households, and at the same time enhance the capacity of the economy to achieve its structural adjustment objectives. Changes in the “social wage”—those benefits transferred to laboring households by the state — should also be taken into account. Adjustment may well reduce the provision of these benefits—caused by cuts in food subsidies, other transfers, education and health expenditures, and so on. The incidence of such cuts on the various households is essentially an empirical issue.
5.18 Many poor households in Sub-Saharan Africa possess productive assets other than their labor: they include those engaged in the urban informal sector and small-holder groups producing agricultural commodities. Changes in the product markets affect these households not only as consumers (or purchasers in these markets) but also as producers (or suppliers to the markets). Similarly, changes in the labor market may affect these households in their capacity as hirers of labor services and not only as sellers. Because of this, the meso-economic effects on such households are rather more complex. Despite this complexity, it is possible to set out a range of possibilities using the simple micro-economic framework discussed in the previous chapter—namely, the recent literature on agricultural household models (Singh, et al., 1986a).

5.19 We shall take for illustrative purposes the recursive version of these models, which is valid for cases where households are price takers in product and factor markets. It assumes, therefore, that all households have uninterrupted access to these markets. With the recursive model, it is possible to analyze the effects of these meso-economic changes in stages, beginning with the household's output decision, and moving on to evaluate the consumption effects. In order to trace the effects on the household of the changes induced by adjustment using this class of models, it is helpful to proceed in stages, utilizing the simple framework described in Chapter 4.

5.20 We begin by tracing how households are affected by the relative price changes induced by an adjustment program. In terms of our simple household model, this is depicted by a change in the relative price, $W/P$. If the household produces and consumes tradables, this ratio is likely to fall during adjustment, whereas producers of non-tradables will experience a rise. Assume initially that the household produces and consumes only one commodity—a tradable food good. Taking the framework which was presented in Figure 4.3 (and repeated here in Figure 5.1 for convenience) we can trace how its production and consumption decisions are affected by the relative price change.

5.21 Assume that adjustment reduces $W/P$, rotating the price line to $(C'/B')$. The first effect is to increase the level of production of the tradable good, from $A$ to $A'$. This occurs independently of consumption decisions, and whether or not hired labor is used. But how the household's utility is affected by this relative price change will depend on whether it is selling or buying labor services. Clearly, it falls for households which sell labor services, with the consumption point being drawn in from $B$ to $B'$, and this will involve a cut in both the consumption of food and leisure/home care. It is only households which buy-in labor services that will gain, their consumption point expanding from $C$ to $C'$. Thus, although all households may increase output as a result of adjustment, only those buying labor services are likely to gain.

5.22 This analysis is useful in showing how consumption and leisure/home care can be adversely affected for some producing households, even though they may be producing the commodity favored by adjustment. However, its main drawback is the assumption of only one commodity consumed, since relative product price changes are generally crucial elements of an adjustment program. We therefore proceed to the next stage, and analyze how a household may be affected if it produces one commodity and consumes another. In modifying the analytical structure used in Chapter 4, we assume that the household produces one commodity (say the tradable commodity, $T$). It consumes both $T$ and a non-tradable ($N$), the market price of each being $P_T$ and $P_N$, respectively. We shall assume also that the consumption of these commodities alone yields utility to the household, which means that no utility is gained from leisure (or housework as defined in our earlier discussion). Figure 5.2 depicts the initial equilibrium in which the household finds itself prior to the adjustment program. The production decision is derived in Quadrant I, which traces household labor (say in terms of man-hours — $L$) horizontally against total household output (of $T$) vertically. The initial production point is at $A$.

5.23 Because, under our assumptions, maximizing utility is equivalent to maximizing income (leisure yielding no utility), the household will devote all its available time to work, either in own-production or in market work. To derive consumption, we must identify the consumption possibility set facing the household. In maximizing the availability of $T$, the household would devote $OL'$ to producing $T$, and all the proceeds of its market work to buying $T$. Since each unit of labor devoted to market work yields a real return of $W/P$, in terms of the tradable, $LT^*$ is the maximum consumption point for tradables. To maximize its consumption of non-tradables, the
household will be required to devote all the proceeds of its market work to purchasing N, and at the same time sell all its output of tradables in exchange for non-tradables. This gives a maximum consumption of LN*. Household equilibrium is then given at the point of tangency of the indifference curve and the budget constraint (N*T* in Quadrant IV). Consumption points to the north-west of X on the budget line indicate that the household consumes T in excess of its production, so that it is a net purchaser of the commodity it produces. Similarly, the household must be a net seller of T if its consumption point is to the south-east of X. The household in the case of Figure 5.2 is assumed to be a net purchaser of T, consuming at C.

5.24 Now, consider a decrease in W/P and an increase in W/P brought about through adjustment. This will increase the production of tradables, from T₁ to T₂ in Figure 5.3. These relative price changes will also change the budget line in Quadrant IV, from N*T to N*T*. The consumption (and welfare) effects will depend on the original consumption point. For households consuming along the segment ZT originally, the relative price change will involve a welfare loss, whilst households along ZN will experience a welfare gain. Note in particular, that it is possible for some households to be net purchasers of the good in question, and yet gain from the increase in the relative price of T (i.e., those households originally consuming along the segment XZ). The reason for this is simply that the households consume also non-tradables, and their price has fallen (relative, that is, to the nominal wage). This reduction in W/P₀ obviously benefits the household as a consumer, and more than compensates for the increase in P. However, even if W/P₀ were to be held constant, for discrete changes in W/P, many producers who were previously tradables-deficit households, become net surplus households as a result of the production increase brought about by the increase in P. For some of these households, a rise in P will be beneficial, even though they were net consumers prior to the price changes brought about by adjustment.

5.25 Similar, though opposite reasoning may be applied to households which produce non-tradables and purchase tradables in the market place. For such households, production would decline, and net sellers of N would experience welfare losses. The effects on net purchasers would depend on their consumption bundles. To summarize, the effect of changes in product and labor markets on production will be to unambiguously increase the output of tradables and reduce that of non-tradables. It will also cause predictable re-allocations of labor time, with tradable households reducing supplies and increasing demands for labor, and non-tradable households increasing their supplies (or reducing their demands) for labor. The net effect on household welfare will also depend on the consumption preferences of the household groups.

5.26 This simple framework abstracts from a number of real-world complications which are clearly important. In the first place, households may produce both tradables and non-tradables, so that changes in the relative price structure will induce them to switch resources in response. A key determinant of the net welfare effect would be the extent to which such production switching is possible, in the short and long term. Similarly,
they may use intermediate commodities in the productive process, the price changes of which will have to be taken into account in computing the net effect of adjustment policies on the rates of return that can be obtained. Farmers relying on tradable inputs (such as fertilizers) may find farm profits declining during adjustment, even though the output price is rising. Those activities that are intensive in the use of non-traded inputs (such as irrigation) will receive stronger positive price inducements.

5.27 One of the main characteristics of poorer rural households in Africa is risk aversion, and this is a factor that is ignored in this framework. Faced with a serious threat to both livelihood and survival, some risk averse farmers may choose to return to subsistence, and turn away from market opportunities. If this is the case, the relative price shifts that are signalled in the market may not evoke the output response predicted by this basic orthodox framework. One of the most important reasons why rural households are risk averse lies in their imperfect access to credit. Because of this, they are unable to finance periods of poor output and income through borrowing against future income streams. This restriction on intertemporal substitution makes them all the more vulnerable to unanticipated changes in their economic circumstances. Credit policy is therefore viewed as an essential complement to price policy, especially in the context of rural Africa.

5.28 The framework also abstracts from issues of inter-temporal choice which households face. Households will be affected by changes in the credit markets that we have observed result from monetary contraction. Again, they will face either increased quantitative constraints in the market, so that they simply cannot obtain the amount of credit they need at the existing rate, or they will find interest costs increasing. The effect of these changes in the credit market are more likely to be indirect in the African context — they will have adverse effects on farm productivity (on the ability of households to purchase inputs in a timely manner), farm incomes and thereby on household welfare.

5.29 Finally, such household enterprises will be affected by changes in the economic and social infrastructure. Both of these will influence farm productivity and profitability. A reduction in physical infrastructure services and other farm support services is certain to impose constraints on farm profitability and the ability of farmers to respond to the relative price opportunities offered by structural adjustment. These "conditioning" effects have been largely ignored in the adjustment literature, and yet they are likely to be very important for many groups of African small-holders. In many African countries, the physical infrastructure serving many rural areas has seriously deteriorated, so that access to needed input and output markets has become significantly more difficult. The fact that prices in urban or near-urban markets have improved may be of little relevance to farmers in remoter areas. The SDA program must take into account exactly how these economic infrastructural effects are likely to affect small-holder productivity and income.

5.30 Similarly, human-capital enhancing services (such as health and education) may have indirect effects on farm productivity in addition to any direct effects on household welfare. Again, the SDA program must make some attempt at estimating how any observed deterioration in the social infrastructure which provides such services has affected small-holder productivity and income. However, these social changes will also influence household welfare directly (and not only through raising economic productivity) and it is to these direct effects that we now turn.

Other aspects of household welfare effects

5.31 Thus far, our concern has been to establish how adjustment influences the economic welfare of the household. The theory suggests that the best single indicator of this is aggregate household expenditure per capita or per adult equivalent. But as we are primarily interested in the welfare of the individual, this must only be con-
sidered as a proxy. It is a proxy in two senses. First, it assumes that measuring household level indicators will give us a reasonable measure of the welfare of its individual members; second, it assumes that the economic circumstances of the household is a useful indicator of its welfare. We have already noted that within-household income distributions can change, which undermines the use of household-level indicators as proxies for individual welfare. We now turn to the second set of issues surrounding our proxy — the importance of non-economic determinants of welfare.

5.32 The two principal sets of influences on household welfare which are central to the SDA program are health and education — such variables as malnutrition, morbidity, mortality, number of years schooling at various levels of attainment, and so on. These can be assessed through direct indicators at the individual level. It is customary for household surveys to collect information on the educational attainment and health status of household members, and clearly the SDA program will continue this practice. But these indicators are essentially outcomes of a complex process, so that understanding what it is that determines these outcomes requires that we go beyond the indicators per se. These outcomes can only be properly understood in the context of the economic circumstances of the household (which has been the focus of our attention hitherto) and its socio-economic environment.

5.33 So when it comes to understanding the determinants of these non-economic elements of individuals’ welfare, economic circumstances will condition to a large extent the social processes. For example, even if food is available in the market, if the household does not possess the exchange entitlements to gain access to these supplies, its members will experience malnutrition and many of its associated health problems. This is why our principal focus has been on economic variables. But it has to be said that this is certainly not the complete picture. There are many influences on the individual which do not originate in the economy, and which are not captured by an indicator such as household expenditure per capita, critical though that indicator is. For example, if the available water supply in the locality is inferior, diarrhoeal diseases and infant mortality will be commonplace, and raising mean household incomes will in itself be insufficient. What is required in such circumstances is either an education program to raise awareness of the need to boil water, or an improvement in water supply.

5.34 We can distinguish non-economic determinants of these direct influences on welfare at three levels — macro, meso and micro. At the macro-level, expenditure decisions by governments on the social sector can have profound implications for individual-level outcomes. The evidence on the extent of cut-backs at the macro-level in Africa suggests that social sectors have been somewhat protected during periods of austerity. Meyers (1986) reports that in most countries of the region, social-sector spending was to some extent protected. However, Sahn (1989: 39-52) found a more uneven picture in his examination of the recent evidence. Some countries increased their allocations to the social sector following adjustment (e.g., Ghana and Kenya), whilst in others significant declines were noted (Tanzania, Mauritius, Senegal, Togo and Zimbabwe).

5.35 These macro-level adjustments will manifest themselves in noticeable meso-level changes, with the infrastructure responding to resource availability. These changes (in both the quantity and quality of services) will have direct effects on individual social welfare which can be quite independent of the household’s economic circumstances. The non-availability of schools, teachers, medical services, doctors, health-care workers and so on, will have independent influences on individuals in the community, and these need to be traced in the SDA initiative.

5.36 Finally, social-welfare outcomes at the individual level will be determined by household characteristics which extend beyond the purely economic characteristics that were discussed in the simple framework above. These include the age, race, religion and education levels of the household head and mother (in the case of infant health outcomes), household size and composition, and so on. Tracing the determinants of individual-level social welfare from the macro-, through the meso- and down to the household levels, is the key to gaining an understanding of how adjustment policies have influenced social welfare both directly and indirectly (through changing economic circumstances). Analysis plans on the effects of adjustment on education, health and nutrition, which have been prepared under the SDA program, follow this basic logic (see Chapter 12).
6

Concluding observations

6.1 There are at least two major problems in deciding on a conceptual framework under the SDA program. First, the policy research problem is itself a major undertaking. The analytical challenges that are faced in establishing how macro- and sector-level policies affect households and the well-being of individuals are serious and should not be underestimated. One of the major outcomes of the theory is that there are no ready answers — the problem is highly complex and can only be resolved in the last analysis at the empirical level. And, of course, the empirical problems that are raised are just as challenging (and are explored in Part II).

6.2 The second problem arises from the heterogeneity of the Sub-Saharan African region to which this framework must apply. It must at the same time be general enough to apply to all the diverse economic and social circumstances of the region, and specific enough to be of use in guiding the policy and investigative initiatives at the country level. Because of this, we have persistently issued warnings that the analytical framework we have presented is not meant to be strictly applied in each and every case. For some cases, the assumptions we have made are a reasonable approximation, but for others, there may be a need for further refinement. Our purpose, however, is not to sell any specific model with its associated range of assumptions, but rather to establish a structured way of thinking about the problem. At the heart of this structure is the simple device of dividing the research problem into two stages: first establishing macro-meso interactions and then dealing with meso-micro effects. This approach also applies at the empirical level.

6.3 The most important conclusion that the theory offers (apart, that is, from indicating that the subject is inherently difficult, and that the theory is inevitably inconclusive) is that adjustment policies can set in motion changes in the economy which have profound and pervasive effects on markets, infrastructure and households. Attempts to raise household incomes which ignore (or even run counter to) these deep-seated changes, are both foolish and counterproductive. Whilst the theory is of little use in analyzing the myriad changes that adjustment programs inevitably involve, it is at its most useful in uncovering these more fundamental economy-wide effects. Without it, the policy-maker would not be able to see the wood for the trees.
Part II
Empirical framework
Introduction

1. Having established the broad conceptual underpinnings of the SDA program, we come now to consider the important empirical requirements that are suggested. Clearly, the data requirements of an adjustment program will be greater when social concerns are integrated. But these additional data will not only serve to enhance our understanding of household welfare under adjustment, they will undoubtedly benefit policy-makers in the design of the adjustment programs themselves.

2. To this end, Part II is divided into three main chapters. The first (Chapter 7) entails a general review of issues surrounding the development of a national information system. Discussion begins with a brief analysis of macro-economic policy and the distributional implications of structural adjustment as they relate to data analysis. This initial discussion forms the backdrop for the subsequent overview of the prototypical components of a national information system based on a hierarchical flow of data emanating from three levels of socio-economic activity. The three levels are the macro-level, the micro- or household level, and the meso-level — referred to in Part I as the intermediate points of economic linkage between the household and the macro-economy. Data from all three levels are seen as constituent elements of an information system which allows for the incorporation of social concerns in macro-economic policy design. The first chapter concludes with a discussion of the data requirements for certain kinds of policy and program areas, such as food security, the role of women, and health, which may require complementary information in order to assure adequate data coverage for well formulated policy decisions.

3. The second chapter (Chapter 8) examines in more detail questions relating to the collection of data at the household level. This emphasis is warranted due to the importance attached by the SDA program to the development of national institutions able to assess the evolution of living standards of different population groups during adjustment. In the African context, the collection of socio-economic data at the household or micro-level has traditionally been the weak link in national data systems. Accordingly, emphasis is placed on the types, objectives and elements of multi-subject surveys as proposed under the SDA aegis of project activities.

4. Finally, Chapter 9 considers the prospective data analysis aspects of the SDA program, beginning with an assessment of systematic and economy-wide techniques designed to trace macro-meso socio-economic linkages, followed by a discussion of some of the key meso-micro issues of concern to the SDA program.

5. Before turning to the three areas for discussion, the reader should keep in mind one point about the purpose of Part II. Given the great diversity of economic conditions and national statistical services found within SDA participating countries, it seeks neither to be an all-inclusive analysis of national information systems nor a technical manual for undertaking household surveys. The more limited aim is to explore some of the basic requirements for national information systems and to vouchsafe that data obtained thereby constitute a fundamental component used in the formulation and monitoring of economic and development policy. Only in this manner can compensatory programs and poverty reduction measures be integrated as part of structural adjustment into national development strategies in the most cost-effective and equitable manner.
7

Elements of a national information system

Structural adjustment, income distribution and data analysis

7.1 Adjustment policies, generically defined, have two primary objectives. First, they seek to improve the balance between aggregate supply and demand through a reduction in unsustainable deficits in the current accounts, and a corresponding easing of inflationary pressures (this is usually referred to in the literature of policy reform as the stabilization program). Second, they attempt to foster a medium- to longer-run reallocation of resources towards the more productive sectors of the economy by promoting changes in the incentives structure. It is axiomatic that the success of a government in reducing an unsustainable gap between aggregate supply and demand will depend on the policies chosen and the ability to coexist with, or modify, the country's institutional and policy setting. The particular policy path chosen generally involves placing constraints on aggregate demand through monetary and fiscal instruments as well as moving to expand supply response by overcoming supply bottlenecks through changes in the market and institutional environment. Under these circumstances, policy-makers face the challenge of selecting the best combination of policies, not simply choosing between either demand-restraint or supply-enhancing alternatives.

7.2 Seen in this light, the role and importance of national information system becomes critical. How are policy-makers to know what is the "best" combination of policies unless they have a viable data base from which to draw necessary inferences? Equally important from the standpoint of the social dimensions of adjustment, policy-makers need to know how different socio-economic groups have fared under past and current policies if they are to determine the distributional (i.e., welfare) implications for these same groups, with consequences over the more immediate and more distant time horizon. In short, the policy-maker requires relevant and timely data in order to choose the content and sequencing of adjustment measures with the express purpose of not only making improvements in the macro-aggregates—correcting account imbalances which triggered the need for economic reform in the first place—but also of recognizing the distributional impact of adjustment policies and either modifying them to the extent possible or taking compensatory actions accordingly.

7.3 But there is another reason for having timely and accurate data for policy making. With changing price and factor relativities, economic reform implies that there will be new economic "gainers" and new economic "losers" as a result of the reform process. The previous gainers may not necessarily be the losers after the reform has occurred, and the prior losers may continue to be the losers after adjustment. Whoever are the gainers and losers, however, both will be affected in different ways by the changing policy environment as new outputs, prices, incomes and factor rewards accrue to specific groups. For planning
purposes, it is desirable to know whether the resulting distributional changes represent a permanent state or whether they are a temporary state as the economy moves towards a new equilibrium point. Likewise, the policy-maker would like to know if the distributional outcomes are policy-induced or are the result of systemic or institutional constraints outside the realm of individual policy instruments. These are research issues which can only be addressed through a systematic, quantitative analysis and are, as yet, largely unresolved in the general range of work underway on the effects of adjustment policies.

7.4 The point is that knowledge about the reasons for these distributional consequences has important implications for the design of poverty-reduction measures or programs of a more compensatory nature. If a negative distributional impact for a specific socio-economic group is deemed to be temporary, then the resulting project or program intervention would no doubt be a function of the transitory nature of the economic displacement. Conversely, if the negative impact only adds to the pre-existing distress of a target group, then program design will need longer-term poverty alleviation objectives in mind. For policy and program purposes, data on various socio-economic groups are indispensable if one wants to understand the relative and absolute, as well as short- and long-term, ways in which these groups are being influenced by changing economic conditions. Clearly, in an ideal state, data and a formal analysis of the problem addressed in the SDA program are complementary tools and should be developed in tandem. In practice the dynamics are very different and, perhaps with a few notable exceptions, data provision usually lags behind data needs to support policy analysis.

Statistical initiatives in Africa

7.5 The preceding section highlighted the rationale for strengthening data collection and analysis with a view to improving the design and implementation of adjustment measures while ensuring the well-being of vulnerable socio-economic groups. This section now shifts to an analysis of what can be done to improve the interaction between policy makers — the data users — and the national statistical offices — the data collectors. It includes a brief review of recent statistical developments in Africa which helps to contextualise the efforts of the SDA program. The premise underlying this section is that the national information systems of most African countries are not yet to the point of being able to provide the kinds of data required by policy makers in order to formulate and systematically monitor the social dimensions of adjustment.

7.6 Even before the current concern with economic reform, African governments had come to recognize the institutional weaknesses of their national statistical services. The situation was compounded as the austerity of recent years resulted in further cutbacks in already emasculated statistical offices, witnessing the cancellation of a number of statistical programs launched in the 1970s. The SDA initiative takes the general position that budgetary cutbacks are a resulting condition, not an initial cause of the problems facing African statistical offices. Instead, it has been the incongruity between what policy-makers have expected of information services with what statistical services have in fact been capable of delivering that lies at the heart of the problem.

7.7 It should not be inferred, however, that this situation has arisen solely because of the inability of the statistical offices to adapt to changing conditions. The problem appears to be the result of actions and misconceptions by both users and collectors. Policy makers have not always known what kinds of data they need, or they have had unrealistic expectations of data requirements as policy conditions have evolved. At the same time, statistical offices have established “separate agendas” in which information programs have developed from the collectors’ perspective, without proper reference to the potential users of the data.

7.8 The inclusion of social dimensions into the policy making process establishes an unequivocal requirement for African governments to review their information services. Policy-makers will need a clear picture of what changes are occurring to various segments of the population during and after the process of adjustment. In order to meet this requirement, an ongoing process of planning and analysis is essential, predicated on a national information system that is capable of providing quantifiable measures of changes over time in key social and economic indicators for specific socio-economic groups.

7.9 The basis of a demand-driven statistical system is therefore an explicit enunciation of policy objectives and a concomitant understanding of
the kinds of information required for determining the progress in attaining those objectives. Having a demand-driven system is not to imply that policy makers unilaterally decide what should be the format and content of data presented. A great deal of interaction will no doubt be required between users and collectors in order to pinpoint the relative strengths and weaknesses of the national information system and to ascertain the gaps in and reliability of the data while the national information service is undergoing institutional change.

7.10 The need for greater interaction likewise implies the establishment of various mechanisms to ensure closer links between the statistical offices and their clientele in the various ministries. One of the prerequisites for a country's participation in the SDA program is the creation of a Users' Committee for promoting communication among planners, analysts and statistical offices. Yet the Users' Committee should be seen as only a part of the interaction, and this dialogue should not be limited solely to the higher levels of intergovernmental contact. Naturally, the exact format of such linkages will vary from country to country, but the important common goal is to break down the traditional isolation which has existed between statistical offices and their counterparts in the line ministries.

7.11 The creation of such channels of communication can be expected to have three related effects. First, the statistical office will develop its own vested interest in meeting the data requirements that have been agreed to within the various inter-agency mechanisms. At the same time, the traditional users will develop a greater understanding of the potential capabilities and limitations of chosen statistical methods, and this should result in fewer false expectations by policy makers. A second effect is that statistical offices may cease to be viewed as a strictly "neutral party" in the policy debate. This development can have various institutional implications, although in many countries statistical offices have not been completely impartial during major policy debates in the past. Based on their expertise in data analysis, statistical offices should be treated as an active participant in the decision-making process even if their role is not necessarily to take a position on any given issue. A third and by no means insignificant effect is that when the policy maker is convinced of the higher utility of more user-oriented data then he is more likely to encourage, if not actually lobby for, larger resources for statistical offices.

7.12 At the time of independence most African states inherited very rudimentary statistical systems (Chander, 1989). The demand for statistics had been minimal in the pre-independence period, but in the immediate post-independence era the establishment of development plans created a fresh demand for macro-level data especially in the form of national accounts and basic demographic statistics. Besides the immediate and continuing resource constraints, especially in the form of a limited availability of trained personnel capable of mounting censuses and surveys, and processing data, there also existed the problem surrounding the application of inappropriate methodologies that were originally created for use in the developed world or in Asian countries. The resource problem was well recognized, resulting in technical assistance programs to mitigate its effects by funding skilled expatriates and, to a lesser extent, by training local staff in statistical techniques. However, the methodological problem has been less widely understood, it is certainly controversial, and has proved to be far less tractable.

7.13 The methodological problem is of two kinds. First, there is a problem of devising essentially new techniques of estimation and measurement. For example, in spite of the importance of agriculture in all African countries it is recognized by most analysts that estimates for agricultural production are generally weak and unreliable (Casley, 1987). Recent studies indicate, however, that in certain circumstances traditional crop-cutting techniques can be replaced by direct questioning of the farmer, for a fraction of the cost and with a considerable gain in precision of the estimates. The second methodological problem is more difficult to resolve and concerns the wholesale use of "internationally-determined" frameworks, definitions and classifications. Although "internationally-determined" systems, such as the national accounts, classifications of commodities and trade, and concepts relating to production and the definition of the household unit, have all tended to be derived from experience in modern, industrialized countries, they are not easily identifiable with the situations that prevail in the developing world or in Africa in particular.

7.14 Although this presents a rather bleak picture of statistical development in post-independ-
ence Africa there have been a number of important initiatives. These initiatives, supported by the United Nations, ECA, the European Communities, the World Bank and other multilateral and bilateral donors, cover the whole spectrum of economic statistics (including price and production statistics), social and demographic statistics and, more recently, natural resources and the environment, but the coverage is patchy and uncoordinated.

7.15 In the social and demographic sphere, including health and nutrition, key initiatives have included the World Fertility Survey, UNFPA African Census Program, Inter-Agency Food and Nutritional Surveillance Programme and the FAO Global Early Warning System. On price statistics, a number of African countries have participated in the International Comparisons Project with support from the European Communities, while a concern with the national accounts in developing countries has prompted discussions on revising the United Nations System of National Accounts (SNA).

7.16 An important development at the micro-level has been the United Nations National Household Survey Capability Programme (NHSCP). The program was set up in 1979 to serve the twin goals of helping developing countries to build a national survey capability and to collect data on a wide range of socio-economic and demographic issues. In those countries where the NHSCP has been effective, the set of surveys most frequently undertaken has consisted of agricultural, income-expenditure, demographic and labor force surveys. In a few countries, health and nutrition, housing, literacy, and other more specialized surveys have also been undertaken.

7.17 In the early 1980s the Living Standards Measurement Study (LSMS) was launched by the World Bank as a research program. It had four broad objectives:

(i) collection of high-quality data through specially designed multi-subject integrated household surveys;
(ii) rapid tabulation of results for immediate use;
(iii) analysis of data;
(iv) development of national capabilities for the regular collection of data. A survey methodology has been developed within the LSMS project and was adopted for use in Côte d'Ivoire, Ghana and Mauritania during the first phase of the SDA program.

7.18 These new initiatives at the household level in Africa consisting of the NHSCP, the LSMS and now the SDA program are, however, all geared to sets of objectives which differ quite markedly. In the short or medium term there clearly needs to be close coordination between agencies to avoid potential duplication or even conflicts of purpose. There is an urgent need to develop coherent strategy for information and statistical systems. Good, appropriate and timely statistics are essential and urgently needed (Stewart, 1987a). This is just as important in the case of social and demographic data as it is in the sphere of economic statistics.

7.19 As indicated above, while there are certain countries and particular fields of enquiry where significant improvements in statistical capability have certainly taken place there is much still to be done. At the same time, it is clear that not all of these deficiencies can be rectified in the short or even the medium term so it will be necessary to establish some priorities for the immediate future. In turn, it may be necessary to revise quite dramatically the existing emphasis towards generating production-oriented economic statistics and to address more directly the measurement of the well-being of people and of sub-groups of households in particular. But the establishment of these priorities and revised emphases ought not to obscure the fact that urgent action is required across the board to meet the statistical needs which are now so manifest.

A hierarchical information system

7.20 The monitoring and evaluation of the socio-economic effects of adjustment policy on different sub-groups of a country's population is, by any measure, a difficult undertaking. No matter what the level of development of the national information system, it is a task requiring a firm conceptual underpinning and a well-delineated methodology based on available resources. The effects of changing macro-economic conditions and adjustment responses are transmitted down to the micro- or household level after passing through an intermediate level of socio-economic activity — the meso-economy. The main ingredients of this process (markets and infrastructure) were reviewed in Part I. The argument put forward is that a combination of changes in both markets and infrastructure determine how the individual household or enterprise reacts to the
new economic conditions. The overriding objective, therefore, is to establish how the macro-economic processes initiated under adjustment programs ultimately affect households. In turn, this entails a process of data collection and analysis at the same three levels of socio-economic activity. Knowledge of each level is necessary if policymakers are to know what changes are occurring to these groups over time as well as to provide the ingredients necessary to explore how these changes have occurred.

7.22 The national information system, referred to earlier, enables the body of data currently available to be assessed and identifies the gaps and deficiencies that exist. It is especially useful to view these data within the SDA focus as components of a hierarchical information system corresponding to the macro-, meso-, and micro-levels of analysis. Data on some of the macro- and meso-variables are already collected as inputs into policy formulation in most African countries even though there is a recognizable variation in the quantity and quality of the data produced on a country-by-country basis. But data on the operation of micro-level units, which has so far been the main thrust of data collection under the SDA initiative, emphasize households, and it is clearly important to examine how this fits within the whole framework of a national information system.

7.23 Table 7.1 is a simple representation of a hierarchical information system for the SDA program. It has five columns and three rows. Col-

<table>
<thead>
<tr>
<th>(1)</th>
<th>(2) SDA focus</th>
<th>(3) Analysis</th>
<th>(4) Constructs</th>
<th>(5) Data</th>
</tr>
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<tbody>
<tr>
<td>Macro</td>
<td>Policy</td>
<td>*Macro-economic models: Aggregate (RMSM) *Multisectoral (CGE)</td>
<td>*National Accounts *SAMs *CPI *BOP *Macro-indicators</td>
<td>*Economic, trade, financial statistics *Social and demographic statistics</td>
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<td>Monetary, fiscal policy</td>
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<td>Meso</td>
<td>Effects</td>
<td>*Sectoral and institutional studies *CGE *Multimarket models</td>
<td>*SAMs *Food balance sheets *Sectoral quantity and price indices</td>
<td>*Community surveys *Price statistics *Production statistics</td>
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<td>Micro</td>
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umn 1 simply represents the three levels of economic and social activity, the macro-, meso-, and micro-levels. Correspondingly, column 2 indicates the decision-making focus and, in particular, it shows how macro-economic policy is transmitted through effects at the meso-level via markets and infrastructure before having an impact on individual and household welfare. The arrows indicate the direction in which these effects are transmitted through the hierarchy. It could reasonably be argued that this is an over-simplification and that not all policies are macro-economic. Some, such as trade, sectoral, and pricing policies affect market conditions directly and should be described more accurately as meso-economic policies. But the ultimate impact is on household welfare just the same.

7.24 Columns 3, 4, and 5, collectively represent the empirical framework that is the subject and concern of Part II. These columns set out a distinction between analytical methods on the one hand and the data collection exercise on the other although, as already emphasized, the two activities are (or should be) inextricably linked. The columns refer to “analysis” (column 3), “constructs” (column 4), and “data” (column 5). Column 3 illustrates some of the empirical analyses (whether these are models or analytical studies) which could be carried out at each of the three levels. These analyses depend on data, and columns 4 and 5 draw a further distinction between the raw data sources (surveys, censuses or returns) and the various constructs used to assemble, organize or present these data for analytical use. This distinction is important for our subsequent discussion but for the present it can be observed that the “constructs” are essentially neutral to the kinds of policy analysis which may stem from them. In other words, they are simply the means of distilling the information gathered at source. Examples of constructs include organized accounting representations such as the national accounts, tabulations (one-or multi-way classifications), or even summary statistics and indicators. The choice of the appropriate constructs to be derived from the raw data may well be controversial; nevertheless, it should be appreciated that the analysis and inferences that are subsequently drawn from them are potentially subject to even wider debate. It is therefore useful to distinguish between “analysis” and “constructs” in this way.

7.25 The household surveys, including surveys of the informal sector, are the main, if not the only source of information at the micro-level, and it is important to establish how these surveys can be utilized alongside data that are available at other levels. At the meso-level, for example, a key requirement will be for detailed price information both for commodities and factor services, especially wage rates. But this may need to be supplemented by enterprise and other sector and institutional surveys. It is at this level that information from a community survey would logically fit. The macro-level of the information system includes much of the data currently available and published by national statistical offices in support of macro-level economic policy making. Some of these data are simply aggregations of data originally obtained at the meso-level, such as sectoral production, and some enterprise and public sector statistics. But others are truly macro-level data and include, for example, central government statistics, external finance and trade statistics. Many of these data sets are assembled and published in the national accounts, but it should be recognized that such arrangements of the data are by no means unique and could be utilized in alternative accounting frameworks.

7.26 In recent years, there has been a widespread interest in the design, construction and use of social accounting matrices (SAMs) to assist in the analysis of development policy and planning issues (Pyatt and Thorbecke, 1976; Pyatt and Round, 1985). A SAM is simply an accounting framework used to record the flows taking place in an economy during a certain accounting period. It is based on the same principles as exist in input-output accounting but the primary purpose of a SAM is to show more of the circular flow of income between institutions (especially households) and production sectors. In other words, whereas the input-output system emphasises the interdependence between production sectors per se, the SAM is intended to show much more of the interrelationships between production structure and income distribution, as well as capital flows and transactions with the rest of the world. Compilation of a SAM draws from a very wide range of economic data sources and any deficiencies in data immediately become apparent. Hence, it could play a potentially important role as an organising framework and a representation of economic data in any natural information system. But there are some particular features of SAMs which might make them especially useful in an SDA context and relevant to our concept of a hierarchical information system.
7.27 One of the principal aims in computing a SAM is to show how the incomes of different household groups are derived from factor and non-factor (transfer) income sources. In particular, factor incomes are earned by household members selling their labor and other factor services in the factor markets. Producers purchase these factor services and with them produce commodities which are sold on the product markets. In part these are purchased and consumed by households. Expenditures (or outlays) from one account in the system are recorded as incomes to another account so that the mapping of expenditures and incomes is recorded explicitly. This is the essence of the circular flow of income represented in a SAM. But, in principle, a SAM can be of any dimension and record any amount of detail, and would depend on the data availability and the required detail for policy and analytical purposes. However, as an economy-wide accounting system it will always contain the basic macro-economic balances and hence it might form a major component in the range of macro-level data constructs. Equally, if different sectors, commodities and types of factors are distinguished then it will provide a useful link to meso-level data and information. In most SAMs this is a major focus. Finally, and given the emphasis on the distribution of income across different socio-economic groups of households and other institutions a SAM will further link directly to micro-level data provided by household surveys. So a SAM is probably best regarded as an example of an information framework that bridges the macro-, meso-, and even micro-levels.

7.28 It is entirely debatable whether a SAM will or even should form the key element in the hierarchical information system adopted by countries participating in the SDA program. The estimation of transactions in a full and detailed SAM may seem an ambitious prospect for some countries in Sub-Saharan Africa that are barely able to compile conventional national income accounts. However, its potential is merely noted at this juncture, especially in its role as an organising framework and consistency check for economic data from widely differing sources. Furthermore, the SAM relates only to economic transactions and does not even purport to include other economic data (stocks, prices, etc.) and social and demographic data so necessary for SDA analysis.

7.29 When all the components are taken together, it is apparent that the complete information system is extensive. Nonetheless, two points should be emphasized. The first point, alluded to earlier, is that in some African countries many of the elements of this hierarchical system are already in place and are being extensively used. The development of national statistical services has traditionally been based on a “top-down” approach, but it has rarely reached beyond the meso-level and never, in an integrated fashion, to the micro-level. The second point to note is that identifiable gaps will have to filled. SDA may have neither the competence nor the resources to do so but by establishing the hierarchical system it can play a role to ensure effective liaison and coordination among relevant agencies and departments so that the gaps are filled by the most competent authority.

SDA information requirements at the macro-level

Basic components

7.30 Information at the macro-level is still the most widely available form of data about the economies of Africa. It is usually prepared by national statistical offices although some key data are assembled and even published by ministries and other public departments, by banks and by the corporate sector. The range of information covers the fields of economic statistics, social and demographic statistics, as well as natural resource and environmental statistics. A large proportion of the information available about any particular country is usually presented or at least summarized in its national statistical bulletins or abstracts. There is no universal requirement, agreement, or consensus among statistical offices in Sub-Saharan Africa or anywhere else as to which statistics should be produced, or even when or how they should be produced. Nevertheless, the data requirements by government agencies as well as by international institutions do generate a core set of key statistics though by no means all of these are available on a regular basis or in a timely fashion in more than a relatively few countries of the world.

7.31 Let us review the broad categories of data generated at the macro-level. Macro-economic statistics may be conveniently grouped into the following fields:

- national accounts
- government finance
• external trade and balance of payments
• money and banking.

A similarly broad categorization of social and demographic statistics would include:
• population
• health
• nutrition
• education/literacy
• labor

7.32 Other fields of statistics such as natural resources and the environment are excluded from these lists. At the present time, macro level environmental data are virtually non-existent in spite of the growing concern about the effects of economic development on the depletion of natural resources in Africa and its ecology more generally. Their exclusion ought not to imply that such data are unimportant. The effects of economic policies on the ecological system have both a direct and an indirect bearing on the relative well-being of groups in society. In most cases, the groups who are most vulnerable in economic and social terms are also among the first to suffer from the consequences of ecological shifts and resource depletion.

7.33 A major element in the array of economic statistics available for any country is the national accounts. However, in terms of the hierarchical information system presented earlier in Table 7.1 the national accounts should be thought of as a data "construct", since they are a derivative of a potentially wide range of source data. It is well known that the national accounts are the main source of information for the basic macro-economic balances of an economy, and should therefore include estimates of aggregate expenditure and income as well as of output. In practice many African countries are still a long way from being able to assemble much more than estimates of output, usually at a sectoral level roughly corresponding to the two digit ISIC classification, together with some estimates of aggregate components on the expenditure side. In achieving this, most countries follow the United Nations guidelines as represented in the System of National Accounts (SNA) (United Nations, 1968) for the conceptual definitions and basic methodology. Still, no country in Sub-Saharan Africa can be said to be anywhere remotely close to implementing the UN SNA in its entirety. The actual data sources for compiling the national accounts on the output side usually comprise purpose-built surveys and some informal enquiries, but they also include censuses (agriculture, industry, distribution, etc.) wherever these are available. It is common to find output estimated according to the "net output" method whereby raw materials (intermediate inputs) are subtracted from gross outputs in order to arrive at sectoral value added. Direct estimates are usually obtained for fixed capital formation, change in stocks, government expenditure and net exports of merchandise trade with private consumption then being estimated as a residual from the identity relating output to expenditure. The data on net exports are derived from customs and excise information; government expenditure data are supplied from the government auditor, while information on aggregate investment is often estimated by a specially conducted survey within the statistics office. There are obviously wide variations between countries with regard to the quality of estimates and the procedures they adopt. It is still probably fair to represent the status quo in Africa as one where there is a heavy emphasis on measuring output and to a far lesser extent expenditure, while there is a virtual complete absence of income measurement at the aggregate level.

7.34 Statistics on government finance and the economic activities of government, generally defined, constitute one of the stronger data sets available to national statistical offices. For budgetary purposes such information is usually timely and reliable. In theory the same ought to be true of state and parastatal enterprises and of marketing boards and other quasi-public sector authorities, but data are not always quite so readily available nor consistent in quality.

7.35 In most countries the compilation of statistics on external trade and the balance of payments is derived from several basic data sources, including customs and excise returns (for merchandise trade) and the central bank (for financial and capital transfers). It is a curious fact that the more restrictive the trade and currency regime, the greater is the statistical office's capability to compile reliable estimates of official (that is, legal) external transactions, although it is well known that such restrictions usually have the effect of driving a greater proportion of transactions underground. An important additional point is that the balance of payments statistics, rather like the national accounts, ought to be viewed as a data construct - a source of secondary data - even though all countries tend to follow quite closely the conventions laid down
by the IMF in compiling their accounts. At the
margin, however, there are some minor differ-
ences in the treatment of external transactions
between the IMF recommendations and those of
the SNA.

7.36 Within the category of data on money and
banking is contained a large and often mixed body
of statistical information. At the macro-level most
of the relevant information is supplied by the
central bank or monetary authority in accordance
with IMF guidelines, as well as possibly by the
Ministry of Finance. Some of the information is
very reliable; for example there are often good
time series data on money in circulation and the
net issue of government securities and other lia-
Bilities. But in the banking sector as a whole
there are rarely sufficient data to assess the flow
of funds between financial institutions with any
degree of reliability.

7.37 Although the range of macro-level eco-
nomic data available for African countries is
patchy and incomplete, the situation regarding
social and demographic statistics is, in most coun-
tries, far worse. Macro-level data on population
include all the basic statistics on population lev-
eels, fertility, mortality and migration. These are
initially obtained from a population census, per-
haps augmented with some sporadic attempts to
maintain annual or interim updates. But macro-
level statistics on health, nutrition and social vari-
able are rarely available in composite form. Nor
is there necessarily a high priority for such data
at the macro-level. In most instances it may be far
more important to be able to measure these fac-
tors for population sub-groups such as social
groups that have previously been identified as
poor or vulnerable. Nevertheless at the mac-
ro-level it could be important to estimate the scale
of a particular problem, such as an epidemic or food
crisis and there are good examples where, as a
result of international action, data have become
available through the assistance of agencies such
as FAO, WHO and UNICEF.

Core macro indicators

7.38 At a very early stage of developing an
information system capable of monitoring the
social dimensions of adjustment the only practi-
cal means of measuring performance might well
be to derive sets of core macro-economic and
macro-social indicators. These are simply sum-
mary statistics derived from the basic macro-econo-
monic aggregates and broad social and demo-
graphic data, and are therefore purely descripti-
ve. However, as measures of performance it is
desirable that they should be clear, unambigu-
ous, easily computable and sensitive to changes
in policy. The problem is that many macro indi-
cators are not very sensitive to policy changes,
especially with regard to the more micro-oriented
focus of SDA. Nevertheless, they may have some
value in describing the status quo. Moreover,
they may be the only information available in the
short term prior to the introduction of purpose-
built surveys and a more detailed data gathering
exercise.

7.39 The composition of the two groups of
macro indicators is by no means fixed but some
eamples may help to illustrate their nature and
diversity.

(i) Macro-economic indicators

- Economy-wide: GDP growth rate; inflation
  rate; external debt (percent of GDP); debt service
  (percent of GDP); exchange rate; interest rate.
- Government sector: tax revenues; social ex-
  penditures; fiscal resource gap.
- Country risk indicators: export commodity
  concentration ratio; import non-compressibility
  ratio; institutional investor country credit rating.

(ii) Macro-social indicators

- Health and nutrition: infant mortality; mor-
  bidity indicator; health status (population per
  doctor); nutritional status.
- Education: adult literacy rate; primary school
  completion rates.

One main advantage of the core macro-economic
indicators is that they can be computed inde-
dependently of the existence of a fully integrated
and consistent set of macro-economic accounts.
Thus, they depend only upon the calculation of
the broad aggregates and measures of macro-
economic performance. The macro-social indica-
tors shown above are predominantly examples
of what are usually termed status indicators, and
simply indicate the current health, nutritional and
social status of the population or segments of it.
Another set of measures is usually referred to as
process indicators, or input indicators, and are geared
towards measuring the influences on social well-
being. Examples of these would include: the
prevalence of breast feeding, availability of pot-
table water, primary school enrollment rates
(process indicators) and real government expend-
itures per capita on social services (input indi-
cators) (Stewart, 1987a).
Although the computation of core macro indicators may seem an attractive option the limitations must be emphasized. First, as we have noted, they are not always very sensitive to policy impulses especially in the short term. For example, global indicators of social well-being such as child mortality, literacy rate, life expectancy at birth, may take many years to show any appreciable change. Second, it may not be possible to compute macro-level indicators that are capable of assessing the well-being of sub-groups, so they are of strictly limited use in monitoring many social dimensions issues. If it is possible to compute these core indicators, especially macro-social indicators, in a timely fashion and at a regional or district level, then their power as a descriptive device and policy monitoring tool would increase substantially. Third, core macro indicators based on observed performance preclude the possibility of carrying out detailed counterfactual experiments other than those based on a continuation of past trends. Fourth, it is very difficult to establish causality — or even association — between variables based on indicators, especially if there are lags in the impact of adjustment policy. Nevertheless, and in spite of the many drawbacks, core macro indicators may be a first systematic step towards analysis based on available data and somewhat better than proceeding on the basis of a priori suppositions and \textit{ad hoc} judgements.

\textit{Macro-economic accounts}

Part of the process of macro-economic adjustment is to focus on stabilization policies which are designed to achieve internal and external balance in the economy. This essentially means rectifying the imbalance between aggregate demand and aggregate supply. In order to understand and analyze the effects of these policies at the macro- as well as at the meso- and micro-levels, it is first necessary to establish what are the basic economic accounting balances for an open economy. These reflect a fundamental concept in economics that every transaction can be viewed as a mutual exchange between two parties so that, in aggregate, receipts must balance expenditures or outlays. There are two basic macro-economic identities relevant to the analysis of adjustment. First, there is the National Accounts balance which measures the flow of goods and services in the economy; and second, there is the Balance of Payments, which measures the (current account balance of) transactions with the rest of the world. To these could be added a third accounting balance usually referred to as the Monetary Survey (using IMF terminology) which measures the flow of monetary creation or flow of funds. As will shortly be demonstrated these accounting identities are independent. It is of course important to distinguish these accounting "balances" from "equilibria". The former are simply identities which always hold even if the economy is in disequilibrium, as it usually is. Also it should be noted that these identities refer to "flows" and not to "stocks" which in any case, are notoriously difficult to measure for any economy.

A discussion of the empirical aspects of the national accounts and balance of payments cannot really proceed further without some reference to the underlying concepts of economic activity involving production, consumption and accumulation. Macro-economic analysis usually relies on being able to define a set of aggregates for production, consumer expenditure, government expenditure, investment, exports, imports, and so on. But many of these aggregates are ill-defined, they are often imprecise and are always conceptually troublesome. This is one reason why in the limit it may be useful to refer to these as "constructs" and to distinguish them from the "data" which are used to form estimates in any given circumstance. It is also an important distinction because subsequent reference to the meso- and micro-levels of activity may well lead to some reassessment of what the macro-level aggregates really ought to constitute. At the present time, however, all empirically determined macro-economic models tend to be based on aggregates assembled according to the concepts and definitions set out in the United Nations SNA and the IMF Balance of Payments manuals (although many of these basic concepts are currently under review). For example, a fundamental concept is to establish a measure of output. This may be defined as the aggregate value of all the final goods and services a country produces annually — Gross Domestic Product (GDP). But different views exist on what should constitute productive as opposed to non-productive activity, on how intermediate consumption differs from final consumption, and even on where one should draw the demarcation line between final consumption and investment. These are often
difficult questions which may never be satisfactorily resolved. Whilst it is possible to proceed on the basis of generally accepted current definitions, the implications of any variations in them could materially affect any set of estimates.

(i) National accounts

7.43 The gross domestic product (GDP) expressed at market prices can be represented as,

$$Y = C_p + C_g + I_p + I_g + (X - M)$$

where $Y$ is GDP, $C_p$ and $C_g$ are private and government current consumption, $I_p$ and $I_g$ are private and public investment (and include the change in stocks), and $X$ and $M$ are respectively the exports and imports of goods and services. Alternative aggregative measures of economic activity are gross national product (GNP), which is GDP plus net factor payments from abroad (NFP), and gross national income (GNI) which is GNP less net unrequited transfer receipts paid abroad (NTR). It is well-known that such measures can differ quite substantially depending on the magnitude of international transfers. Equally, the disposition of gross national income can be expressed as,

$$Y + NFP - NTR = C + S$$

$$= (C_p + C_g) + (S_p + S_g)$$

$$= C_p + S_p + T$$

where $T$ represents total tax revenue, $S_p$ is private savings, and $S_g$ is government saving defined here to be equal to tax revenue less government current expenditure. From (1) and (2) and some rearrangement gives,

$$(S_p - I_p) = (C_p + I_g - T) + [(X + NFP) - (M + NTR)]$$

The left-hand side of (3) gives the net flow of saving from the private sector into the financial markets while the right hand side sums the government's demand for deficit finance and the foreign sector's demand for funds to finance its current account deficit. Needless to say this third equation has obvious importance in structural adjustment discussions.

(ii) Balance of payments

7.44 The balance of payments identity is simply a way of showing the current account balance (BOP) and how it is financed. A current account surplus (BOP > 0) equals the excess of income received by domestic residents over their expenditure,

$$BOP = \text{Gross national income — domestic expenditure}$$

$$= (Y + NFP - NTR) - (C_p + C_g + I_p + I_g)$$

$$= (X + NFP) - (M + NTR)$$

and from (3)

$$BOP = (S_p - I_p) + (T - C_g - I_g)$$

$$\Delta NFA$$

where $(S_p - I_p)$ represents the private surplus, $(T - C_g - I_g)$ the government surplus, and $\Delta NFA$ the change in net foreign assets. Equivalently, a balance of payments deficit implies a decrease in net foreign assets. Thus for instance, if net savings in the private sector are zero then a public sector fiscal deficit automatically implies a deficit on the balance of payments account and hence a decrease in the holding of net foreign assets (NFA). The decrease in NFA would be realized by a decrease in foreign exchange reserves held by the central bank or an increase in government liabilities held abroad, or by compensating changes in both elements such that there is a net decrease overall.

7.45 The balance of payments identity helps us to focus on the alternative policy measures that a government can pursue to correct external imbalances (Helmers, 1988). Three policy measures could be designed to address BOP deficits as expressed through (4), (5) and (6). The first are termed expenditure-reducing policies and these consist of monetary and fiscal policies. Examples include the reduction of government expenditures (or raising taxes) which would lead to an increase in the government surplus, or the pursuance of policies to curtail investment or increase saving in the private sector. Under ceteris paribus assumptions either of these would lead to a reduction of the BOP deficit (see (5). The second class of measures are termed expenditure-switching and these operate directly on trade flows (see (4)). Thus for example, trade policies involving a change in the regimes of quantitative restrictions,
Measures on imports, export subsidies and changes in the real exchange rate would all lead to a switching of expenditures between domestic goods, exports and imports. The third category could be termed financial policies, and these would arise when a current account deficit is financed by reducing net foreign assets as indicated in expression (6). We often find combinations of all three categories of these policies encapsulated in macro-economic stabilization programs.

Measurement problems

7.46 Some standard, though largely unresolved conceptual problems relating to the measurement of economic activity are especially relevant in the African context. It may therefore be pertinent to draw attention to them at this juncture in so far as they have a direct bearing on our measurement of the social dimensions of adjustment. For example, a major conceptual problem relates to defining the appropriate boundary of production which, in turn, means defining the point at which non-market activities should count towards the measure of output or income (Hawrylyshyn, 1977; Hill 1977; and Pyatt 1987). This is important because no imputation is currently made for certain activities, such as gathering firewood, on the grounds that they are “non-productive”. However, in more developed economies “equivalent” products would be included because they are traded in a market (e.g., fuel). There are many quite difficult conceptual issues which come into sharp focus as soon as we begin to integrate macro and micro data outside the confines of the household economy and within the scope of macro-economic conventions (Ruggles and Ruggles, 1986).

7.47 One significant practical problem concerns the estimation of private consumption (Cp). This is the largest single aggregate on the expenditure side of the national accounts and yet it is usually estimated as a residual. Even if a household expenditure survey exists it is not common practice to use it to estimate Cp. The SNA includes a recommendation that the national accounts be estimated via the commodity balance approach and, in principle at least, this would have the virtue of helping to reconcile inconsistencies between estimates obtained from different sources. The basis of the 1968 SNA is a proposal that each country should compile a set of input-output tables. In this way supplies of commodities can be matched with dispositions, and the intersectoral (interindustry) transactions representing intermediate consumption can be netted out to leave the aggregates consistently estimated. The problem is that African statistical offices rightly view the SNA system as being too demanding and fundamentally unworkable in its present form. As a result there is rarely any attempt to incorporate any data sets which might lead to reconciliation problems. This is basically why it is usually preferred to estimate personal consumption expenditure as a residual. It is a worrying outcome nonetheless, because if the national accounts estimates of personal consumption at the macro-level are relied on to provide the basic information on individuals’ living standards then the margins of error are likely to be enormous. So there must be some early improvement in national accounting procedures at least in regard to personal consumption as it is currently defined.

SDA Information requirements at the meso-level

7.48 The meso-level has already been established as being crucial in determining how changes in policy at the macro-level ultimately affect individuals and households at the micro-level. This intermediate level has been defined to include two key elements — markets and infrastructure — which serve to act as conduits of policy between the macro- and micro-levels. The recognition of the meso-level has prompted the need to examine two stages in our analysis; the “macro-meso” stage whereby macro-policies affect market conditions and social and economic infrastructure, and the “meso-micro” stage in which changes in the meso-economy impact on households. The establishment of the role of the meso-economy and the two-stage analytical approach implies the need to examine very carefully the intervening variables in the process. In particular, it is necessary to establish the information requirements and the range of possible empirical approaches in order to carry out an effective two-stage analysis. It need hardly be said that the issues, though important, are highly complex and will prove to be a most challenging part of the SDA program both conceptually and practically. Moreover, it should be recognized that some of the important changes that take place in the meso setting may be qualitative rather than
quantitative, which are not usually observed very well empirically. Nevertheless, and in spite of these caveats, there are a significant number of quite tractable analytical and empirical approaches that involve information which either already exists or can be readily identified as a priority requirement in a survey or information-gathering exercise. It is the purpose of this section to set out these requirements in a systematic fashion. To facilitate this our initial discussion will be organized around each of the two conduits in turn in order to establish what role they play and what might be the implications for empirical analysis.

**Markets**

7.49 There are many ways of characterizing the markets in an economic system. In the first instance it is useful to make a broad distinction between product, factor, and financial markets, and possibly asset markets as well, although the latter could be viewed as a set of markets that overlap the markets for goods (physical assets) and financial assets. Markets can be of several types. They can be either more or less formal, and official or parallel. Macro-economic adjustment policies directly or indirectly affect all these markets by altering market conditions in the form of changes in relative prices and the quantities traded. Most households trade in at least one of these markets and, indeed, many African households trade in all of them in their various capacities as consumers and producers of products and as suppliers and users of factor services. Hence, if market conditions change so will the well-being of individuals and it will all happen in a complex and not very easily predictable way. It is for this reason that we need to examine in a little more detail the range of possible effects of adjustment policies on the conditions prevailing in each of these markets.

(i) **Product markets**

7.50 A basic distinction has been made in Part I between three categories of products: exportables, importables and non-tradables, where tradables can be considered as comprising exportables and importables. There we saw that non-tradables are a class of goods and services that are produced and distributed only within the country. This can be because of high transport costs or commercial policy obstacles. Tradables, on the other hand, are goods that cross frontiers and, in theory, their prices are determined by world market conditions. This distinction proved useful in establishing some basic results in the context of a highly stylized three-sector model on how adjustment policies are likely to affect market conditions and hence the well-being of households. In practice the distinction between tradables and non-tradables is more arbitrary and, as regards data requirements, it usually means that quite detailed commodity disaggregation is necessary.

7.51 Starting from the position of an external imbalance (which can be expressed in terms of an excess demand for tradables) we can consider first the effects on the product market brought about by an expenditure-reducing package consisting of fiscal and monetary contraction. The reduction in domestic demand, designed to bring the external account into balance, will result in an excess supply of non-traded products. So the question now arises as to how this excess supply can be eliminated. The theory is that if the price of non-tradables is perfectly flexible, then they will move downwards to clear the non-tradables market. In other words the price of tradables relative to non-tradables (the real exchange rate) will rise, thus changing the relative profitability of the two sectors. There will be a tendency for resources to shift out of non-tradables and towards tradables.

7.52 In practice product markets will respond to these policies in a variety of ways and it will be crucial to find out how they might operate in order to assess the social impact. To begin with it must be said that the assumption about flexible prices has limited application to Sub-Saharan African countries. This is partly due to adverse expectations in the sense that producers of non-tradables may be reluctant to lower their prices when demand falls if they believe that policy reversal is possible. But it is also due to the inherently oligopolistic nature of much of the manufacturing system and to the fact that many African countries start from a position where stringent controls and strong government intervention are in force. All these factors underlying price rigidities tend to slow down the process of adjustment. Expenditure-switching policies such as devaluation or tariff reform are designed to directly influence the change in relative prices in favor of tradables and hence speed up adjust-
ment. However, devaluation has a tendency to be inflationary and tariff reform will also adjust the relative prices within the tradables category between exportables and importables so it is by no means insignificant to know just how this realignment of prices comes about in assessing the overall social impact.

7.53 It should be noted that in practice the distinction we have drawn between tradables and non-tradables is not clear-cut and this can complicate empirical analysis when we move beyond the simplified two sector model. In some instances sectors such as construction, housing, and government services can be clearly designated as non-tradables and others, such as the main export commodities are tradables. In general, however, tradability is a matter of degree rather than some absolute division.

7.54 It is important to introduce one more feature of the real world at this point. Many African countries begin their adjustment programs from positions where parallel markets exist alongside the official markets for certain commodities, including the market for foreign exchange. Many of these are illegal and involve smuggling or illicit dealing in goods obtained under quota at a price below the true scarcity cost. Empirical information is therefore not easily obtained. However, one consequence of parallel markets is that economic rents will accrue to some members of society and not to others. Hence, if market liberalization reduces the activities in parallel markets then marked distributional and social consequences will result. Furthermore, the shift from parallel to official markets could exaggerate our measure of output change and of the amounts traded, and there is some evidence to suggest that this could be substantial.

7.55 The effects of the relative-price and output changes in the product market referred to above impinge on households in a variety of ways. In terms of the three-sector distinction some basic results are immediately clear. For example, as consumers, the beneficiaries will be those households who consume relatively more non-tradables than tradables. But many households are also producers who will be affected by the shifts in relative producer prices, the implication being that tradables producers (e.g., small-scale agricultural activities) will benefit most from the increase in the relative price of tradables. In restricting our attention to the product market implications, the net effect on household well-being might be ambiguous and need to be assessed empirically in each case.

(ii) Factor markets

7.56 Many households rely on the sale of labor services to derive wages as a means of their livelihood. But in Sub-Saharan Africa, there are also many households, especially those engaged in the urban informal sector and smallholder groups producing agricultural commodities, which hire as well as sell labor services. Therefore, households will feel the effects of adjustment through changes in the factor markets as well as in the product markets which will add further complexity to an overall assessment of the effects on particular household groups. A few features of the factor markets need to be examined in the context of empirical analysis and information requirements.

7.57 One of the main objectives of adjustment is to switch resources from non-tradables into tradables production. However, in assessing the implications for the factor markets we must distinguish between the long- and short-run consequences. In the short run, the transition is unlikely to be smooth and unemployment will probably rise as the economy adjusts. There are two principal reasons for this. First, non-tradable activities will generally contract faster than tradable activities can expand, especially if the latter require the rehabilitation of equipment and new investment. Hence, factors will be unemployed for a time while awaiting their re-allocation to the tradables sector. Second, the expenditure-reducing package usually involves curtailing government services and hence a direct retrenchment of government employment. In the long run, however, real wages will adjust and move towards a new equilibrium but whether these are higher or lower will depend upon the relative factor intensities of the tradable and non-tradable sectors.

7.58 An important dimension in the labor market concerns the existence of a traditional informal sector alongside the organized formal sector. The informal sector is sometimes closely aligned with the non-tradables sector because many people work as artisans and petty traders. A substantial part of the production of tradable goods in agriculture is also informal, so the distinction is not nearly so clear cut. What is fairly clear is that the informal sector is quite signifi-
cantly affected during the adjustment process. For example, as a result of deflationary measures there will be employment contraction in the formal non-tradables sector (e.g. a cut in government employment) because employers have little alternative in the organized labor market but to "shake-out" excess labor. The redundant formal sector workers will now tend to move into the informal sector. This will include a move into urban services even though the demand for these services may also have contracted. However, a major characteristic of the informal sector is that it is a very flexible labor market, so that a fall in demand will tend to affect remuneration rather than employment. So the labor markets in the formal and informal sectors may reflect very different features. There will be wage resistance in the organized sector, while the informal sector acts as the "residual pool" of labor during the adjustment phase (Scobie, 1989) with employment rising and average income declining. It is also suggested that labor may flow more easily between formal sectors (non-tradables to tradables) than between the formal and informal sectors within tradables or non-tradables. The fact is that we often have very little information about the informal sector and yet these kinds of outcomes could have significant bearing on how adjustment affects the poor in society.

7.59 In carrying out a detailed analysis of the labor and other factor markets during adjustment it is important to recognize the existence of several quite distinct markets. We have just referred to the feature of labor market segmentation in which the market for a particular kind of labor is divided into the formal and informal components, and where the structure of wages does not mirror the distribution of skills and human capital. It will be useful to distinguish labor markets in other ways too: by employment status (self-employed, employer, employee); by level of education attained; by gender; and by region, especially if labor is geographically immobile. It might be necessary to identify different forms of capital (distinguishing housing from other capital, for example) especially because of the relative immobility of capital between production sectors in the short or medium term. Only by observing the relative changes in the factor markets, and the remuneration of labor in particular, can we begin to see how the primary income generation of households is affected by adjustment.

(iii) Financial markets

7.60 Although households will be principally affected by changes in the product and factor markets, they may also be affected by changes in the credit markets resulting from monetary contraction. They will either face increased quantitative restrictions in the market, so that they simply cannot obtain the amount of credit they need at the existing rate, or they will find interest costs increasing. But poor households have very limited direct access to financial markets anyway so the effects on them will depend on substantial part on the extent to which the policy effects in the formal market spill over into informal markets. Again we see that the informal and parallel markets play an important role. In the pre-adjustment phase, credit may be available in parallel markets but at a premium rate. Liberalization might bring with it some narrowing of the differential between interest rates, although tight monetary controls will generally keep rates high. Note also that the rationing of foreign exchange in the pre-adjustment era has often created official and parallel markets in foreign currency with multiple exchange rates that have persisted well into post-adjustment. Of course, it is not necessarily the case that changes in all these markets will have a major direct impact on the poorest households. Information is needed to monitor the changes and their impact.

Infrastructure

7.61 It has already been asserted in Part I that economic and social infrastructure forms a crucial part of the meso-economy in Sub-Saharan Africa. By "infrastructure" we usually refer to publicly-provided physical capital and government services. The subdivision into economic and social components comprise the following:

* Economic infrastructure. Major elements of physical infrastructure such as roads, irrigation and transport facilities and current expenditures on a range of support services such as agricultural marketing and extension services.

* Social infrastructure. Capital expenditures on schools and hospitals and current expenditures on health, education and nutrition. Bearing in mind the nature of the expenditure-reducing elements of adjustment policies and the limited scope for increasing tax revenues without endangering the very objectives of policy, the
brunt of adjustment will tend to fall on reduction in government expenditure and especially on infrastructure provision. Clearly, changes in the provision of economic and social infrastructure will have a direct and major impact on some households but only a limited and indirect impact on many others. In assessing the social dimensions of adjustment it is therefore imperative that these impacts are assessed in a methodical and consistent way.

7.62 A direct effect of this overall reduction in economic infrastructure will be felt by households operating as producers. For example, a reduction in physical infrastructure and other farm support services is certain to impose constraints on farm profitability and hence on the ability of farmers to respond to the improvement in agricultural prices brought about by structural adjustment. These kinds of effects have been largely ignored in the adjustment literature and yet they are likely to be important for many groups of African smallholders. Furthermore, in many African countries, the physical infrastructure serving many rural areas has seriously deteriorated, so that access to the necessary markets has become significantly more difficult. In these circumstances, the fact that prices in urban or peri-urban markets have improved may be of little relevance to farmers in remoter areas. It is clear that information is required on how these economic infrastructural effects are likely to affect smallholder productivity and incomes. A further point is that many of the effects may not be immediately apparent if the overall reductions have taken the form of maintaining current expenditures at the expense of withdrawing capital projects.

7.63 Reductions in social infrastructure will affect households both directly and indirectly. A cut in the provision of teachers for example, will directly affect the incomes of households whose members are teachers, but the cuts would also affect those households who receive fewer (or inferior) educational services. The indirect effects of human capital enhancing services (such as health and education) may be felt through a lowering of labor productivity. The effects of reductions in social infrastructure, though possibly more pervasive than economic infrastructure, may disproportionately affect some groups more than others. Rural areas may fare worse than the influential middle and upper income urban classes, in regard to both health and education services. Once again it will be a central aspect of the SDA program to seek systematically the information needed to monitor the differential effects of reductions in social and economic infrastructure — for example, whether there is any decline in health facilities or in books available in education, etc. Such data are not routinely collected and must therefore be sought as part of an overall survey initiative at both the community and the household levels.

Data and information

7.64 Information for meso-level analysis must be sought from several key sources. In all Sub-Saharan African countries this will involve the introduction of new surveys to supplement available data sources. Unlike the major macro-level institutions (central and regional government, central bank, customs and excise departments) or the micro-level institutions of households with which we are ultimately concerned, the meso-level is not observable in an institutional sense. We do not observe markets as physical entities and therefore we cannot derive information about how they function directly. Equally, our interest in economic and social infrastructure is not simply to do with reductions in expenditures per se but more in terms of the flow of services derived from this expenditure. Hence, information has to be sought from individuals and households across all groups in society to ascertain the overall impact of changes in infrastructural provision.

7.65 At the national level, meso-economic data are available chiefly on product-prices, on wages and other labor-force data and on sectoral production. Each of these is reviewed briefly.

7.66 Information on prices has been accorded a relatively high priority by national statistical offices especially as a result of the widespread participation by African governments in the International Comparisons Project (ICP). Although the prime purpose in collecting this information has been to compile purchasing power parities there is usually some parallel attempt to compute a consumer price index (CPI) to provide the basic measure of a country’s rate of inflation. The main problem here, however, is not so much the price data but the determination of the weights of the index. In the past this has been one of the principal reasons why statistical offices have conducted household expenditure surveys and it clearly requires that expenditures are obtained at a sub-
stantial level of commodity disaggregation. Producer price series and import and export price statistics are generally far less prevalent, except for a few major products such as those representing the principal export commodities. Similarly, information on wage rates is virtually non-existent with a few notable exceptions such as public sector occupations.

7.67 Data on employment and earnings can be derived from several possible sources. One major source is sometimes a purpose-built labor force survey. These are usually carried out fairly infrequently. Yet when they are undertaken they clearly do provide the very best information on labor force participation, occupational structure, earnings and general labor force characteristics at the time. A population census also provides some baseline information on employment as do some production censuses and surveys. It must be noted that the information obtained from production surveys is usually very meager and it is rarely possible to utilize it in any subsequent analysis. Likewise, although some partial information on earnings can sometimes be gleaned from income tax and social security returns it suffers heavily from a problem of bias and non-coverage. However, like output, the measurement of employment is fraught with difficulties brought about by adapting concepts borrowed rather too freely from the developed world to economies where these are often inappropriate or inapplicable.

7.68 As noted earlier, some sectoral production statistics are routinely generated as part of the compilation of the national accounts. Individual line ministries, such as agriculture, usually play a key role in this process. In addition to the requirements for estimation of the current value of output it is usual to find estimates of real or constant price output (or possibly just indices) as well as series of physical outputs for some selected commodities. Various methods exist to obtain these estimates but there is a heavy reliance on measuring physical changes by means of a single indicator of a key crop or product which is then applied to a base year value.

7.69 There are two principal survey initiatives under the SDA program which will provide the main data and informational requirements for analysis. The Household Surveys, carried out as a sequence or some combination of a Social Dimensions Integrated Survey (IS) or a Social Dimensions Priority Survey (PS) (see Chapter 8), will not only provide the main source of information at the micro-level but will also provide some key data about the functioning of markets and how adjustment has affected the availability and quality of economic and social services to households. Some information on market behavior will be obtained from households in respect of their roles as both producers and consumers of products. In addition, the household surveys will provide some information about the operation of labor markets. In both cases, however, the household surveys will yield relatively little information about prices or wages. A second survey initiative, the Community Survey, is designed to generate information on the movement in prices at a community or regional level, and, just as importantly, information on how adjustment has affected the supply of social services and economic infrastructure. Although the effect of changes in provision will be felt at the household level, information on health, education and other public services is sometimes best monitored at a community level where there could be differential impacts of adjustment of the poor and the non-poor within a community.

SDA information requirements at the micro-level

7.70 We now examine the particular requirements at the micro-level, and its relationship with the social dimensions of adjustment. Four issues are discussed below. The first concerns the nature of the household as a unit of study. Second, we consider the question of grouping households and identifying target groups. Third, we consider the range of data constructs currently available for indicating levels of welfare; and finally, we briefly discuss the specific data requirements for micro-level analysis.

The household unit

7.71 Individuals are usually members of several overlapping social networks at the same time. The nuclear and extended families are obviously two social units; the household is another. A household can be a one person or multi-person unit. A number of criteria can be used to define the household. Those commonly utilized include: members who have a common source of major income, live under the same roof or within the same compound, and have a common provision for other essentials of living; (Casley and Lury, 1987; United Nations DTCD, 1989). While the
criteria used to identify households must be chosen to suit the local situation, a basic distinction should be drawn between the household and the family unit. The latter would involve imposing an additional criterion of kinship, where members are related by blood, marriage or adoption. The size and characteristics of households can show wide variations by locality and country. They could consist of a single family but commonly in Africa households could consist of several families, whether these are of the same kin or persons with no kin relationship. It is possible for families to be spread between households, either temporarily or permanently. For example, a married woman while young may continue to live in her father’s household, while the husband lives under a separate roof.

7.72 The basic United Nations’ definition of a household, used in many surveys, is a “group of people who live and eat together”. While this is clear as regards our distinction between households and families, there is a problem as regards individuals who board (eat with the household) and lodge (live with the household). The general United Nations guidelines suggest that the boarder who does not lodge should be included, but the lodger who does not board should be excluded; thus those who board and lodge, such as domestic servants, are regarded as household members. In many cases this could establish a household unit that is too heterogeneous in its composition, especially for SDA purposes. The degree of intra-household inequality could be too great and could miss many of the important social dimensions. So a second criteria can be added which is that all persons living and eating together should acknowledge the authority of a single head of household, regardless of whether the latter is living with the other household members or living away. Hence the decision as to whether servants and lodgers are considered to be household members, or are a separate household, depends on whether or not they accept the authority of a household head. In the African context the situation of polygamous households can present problems depending on whether each wife is treated as a separate household or as a part of one large household. In the former case it is necessary to apply an arbitrary rule such as linking the household head to the senior wife to avoid double counts.

7.73 The household is an important social and economic unit because: (i) within it many of the decisions concerning individual members’ activities and their consumption (and hence their welfare) are made, and (ii) its physical properties—the fact that it is a collection of individuals with an identifiable location—make it a useful sample unit in survey work. However, the household may not always coincide with a single economic unit. In this regard we can distinguish two kinds of economic units: consuming and producing units. As a consuming unit, living and eating together might not imply the pooling of all incomes and sharing all expenditures. Even if it does, and the household constitutes a family unit, two possible concepts of household decision-making based on the “glued-together” or “despotic” family unit can lead to widely different results on the intra-household allocation of resources and hence of individual well-being. The problems stemming from the household’s role as a producing unit can be even more problematic. Small scale agricultural holdings of non-farm enterprises may not match the household unit. The agricultural holding is usually defined as the land and livestock that is managed as a single unit by a holder, who may not be the head of the household. For example, in many countries the wife of the household head is allotted a certain area of land on which she grows a limited number of crops traditionally cultivated by women. Also, non-farm enterprises may be operated by more than one household, which creates a problem both in identifying and attributing the incomes generated. In view of this non-alignment between the household and economic units, in some surveys in Africa alternative institutional units have been used such as, individuals living in a hut in the village or cattle post (Botswana), and a homestead (Swaziland). Also, special arrangements may have to be made in defining appropriate units for nomadic societies (United Nations, 1989). However, notwithstanding these complications and exceptions, the household unit is to be regarded as the basic preferred institutional and sampling unit for SDA policy analysis although its precise definition has to remain a country-specific choice in the light of local circumstances.

7.74 A further decision about household composition has to be made in regard to whether one adopts the de facto or de jure approach. The de facto definition pertains to those household members present at the time of the survey, and is most commonly used for enumerations over short periods. The de jure definition relies on a concept of normal residence and is usually preferred in surveys conducted over a period of time.
7.75 In spite of the many good and convincing reasons for choosing the household rather than the individual or any other social grouping as the appropriate unit, there are still many problems in deriving inferences about the individual's well-being from household-level responses. Preferences of household members could differ widely as could the basis for allocating resources among them. For example, in certain situations we may observe an increase in household income (perhaps under adjustment) which does not generate an improvement in the nutrition of all household members. An assessment of the social dimensions of adjustment that is primarily carried at the household level could therefore mask a number of consequences at the individual level. For this reason it is important to monitor particular dimensions—such as the role of women during an era of adjustment—which otherwise might not emerge in a household-level analysis.

Classifying households and identifying target groups

7.76 The classification of households by socio-economic group constitutes an essential element in data analysis at the micro-level. Such classifications are important if policy-makers want to know how shifts in macro-economic and sector policies actually change the income composition of various social groups and thus determine how their well-being is affected accordingly. In theory, any number of criteria might be used to establish the classification of socio-economic groups, but the basic requirements of a useful criterion is that it should be unambiguous and have a clear policy focus. Apart from the obvious importance of policy targeting, household classifications ought to be chosen so that they are relatively homogeneous. Hence, variations (say of incomes or expenditures) within groups are smaller than variations between groups. In this way, we have more scope for analyzing behavioral responses to policy changes. Finally, since households are most often multi-individual units, a classification should ideally be chosen which is applicable to all individuals in a given household or, alternatively, to the household as a whole; otherwise, the fundamental notion of the household being a "unit" is lost.

Criteria

7.77 A broad set of criteria has been used for classifying households, including wealth, income or expenditure (economic criteria); sociological; location; and characteristics of household head. I

7.78 (i) Wealth, income, or expenditures Although these are included in a combined category of "economic" criteria, each one has a different merit. Wealth is important at several levels. In rural areas access to land is a critical consideration. The landless or near-landless households can be affected quite differently from the smallholder by development policy. The rich, measured in terms of accumulated wealth in the form of physical or financial assets, are clearly a distinct group; but even among the relatively poor, those with any assets might be distinguished from those who have none. Wealth, as with income or expenditure, has the advantage of being a household-level criterion. However, the use of income, expenditure, or to some extent wealth, as a classification criterion suffers from a major drawback, in that according to any of these criteria, a household's relative position, and hence its classification, might change over time or as a result of policy intervention. For instance, the mobility of households between income deciles makes total income a poor classification criterion for targeting policy on particular households. The wealth criterion is much more effective because households are relatively less mobile between wealth groups in the short or medium run.

7.79 (ii) Sociological These criteria include a range of factors such as race, religion or language and assume a particular importance in African societies where market fragmentations or even ethnic discrimination might be a common characteristic of the majority of the poor.

7.80 (iii) Location Location is usually justified on the grounds that policy often has a locational element. Rural households need to be distinguished from urban households but, even beyond this, our focus on the meso-economy has indicated a strong spatial dimension in the way policy is transmitted through markets and infrastructure. Thus, it might be important to use an even finer locational division for the purpose of classifying household groups and to capture the regional effects directly.

7.81 (iv) Characteristics of the household head The socio-economic characteristics of the household head (e.g., occupation or employment status) are often used as criteria for classifying households. In doing so one is implicitly assuming that the behavior and level of well-being of all individuals in the household can be determined or adequately represented by the status of the head.
However, the economic status of the household might be determined by the characteristics of the main earner who could be a different individual from the household head. So this criterion has to be used with much care in its practical application.

7.82 In the case of Sub-Saharan Africa, an indication of some broad categories of socio-economic groups that might figure in a number of taxonomies is as follows:

**Rural sector**
- export-oriented medium- and large-farmers
- export-oriented smallholders
- food/subsistence farmers
- pastoralists
- landless (or near landless) agricultural workers
- non-agricultural workers

**Urban sector**
- government employees (skilled)
- government employees (unskilled)
- private sector employees
- private sector employers, self-employed
- inactive or unemployed

7.83 The purpose of defining such classifications is to facilitate the design of policy interventions, which frequently affect the socio-economic groups in different ways. Policy makers may define target groups of special concern, and the selection of socio-economic categories obviously has to reflect these target groups. However, it is important to distinguish between the concepts of socio-economic group and target group. In the first place, socio-economic groups are defined to cover the whole population, and they are moreover mutually exclusive. In other words, each person (or household) in the population belongs only to one socio-economic group. On the other hand, people may belong to more than one target group, and of course many will not belong to a target group at all. Target groups are neither exhaustive nor mutually exclusive. A target group may be a sub-set of a broader socio-economic group — for example, maize smallholders may be considered a target group, and part of the broader ‘smallholders’ socio-economic group. Alternatively, a target group may cut across socio-economic groups, as in the case of female-headed households as a target group.

7.84 Whilst it is important to maintain this distinction between socio-economic and target groups, the choice of socio-economic categories must reflect the groups that are targeted for policy and program purposes. Hence, socio-economic groups, representing the basic taxonomy for data classification, should be carefully selected so as to allow the identification of target groups for policy and program intervention as well as representing groupings of households which are relatively homogeneous in levels and sources of income, expenditure patterns, and economic behavior more generally. However, if the classifications are too finely divided then the analyst could run into empty-cell or small sample problems. On the other hand, for SDA purposes, some of the non-targeted household groups might be aggregated into fairly broad categories. Nevertheless, it is not always obvious prior to formal modelling or analysis just how important the behavior of non-targeted groups may be through their indirect effects. So this suggests that great care must be exercised in selecting the appropriate household classifications. The question of target groups is a major issue in its own right, and requires further consideration.

7.85 Concern for the social dimensions requires a clear picture of particular socio-economic groups’ vulnerability to adjustment programs and the impact of adjustment on the existing patterns of poverty found in a given country. In turn, there is a direct consequence of this implication in terms of information requirements and analysis at the micro-level. Three aspects must be considered:

- Data sources. The main data sources for the analysis of individual and household well-being are the Household and Community Surveys. The survey structure as it exists in the context of the overall SDA program is discussed in Chapter 8 of this volume.
- Poverty profiles and social indicators. From the data one has to build up a picture of the identifiable characteristics of the poor as well as of the depth and extent of poverty defined according to some relative or absolute poverty line.
- Target groups. From the results of the poverty profile analysis and our prior knowledge about poor and vulnerable groups, it is necessary to identify target groups for policy purposes.

**Data sources**

7.86 Under the SDA program, the Household and Community Level Surveys provide the main data and information for household level analysis, especially in order to help identify the incidence and intensity of poverty and the socioeco-
nomic characteristics of the poor. The SDA House-
hold Integrated Survey (IS) is a multi-subject
survey covering: income and expenditure, edu-
cation, health, employment, migration, housing,
agriculture, non-farm enterprises, transfers and
savings, and anthropometry. The preliminary
sections of the questionnaire also generate some
basic information about household membership,
including number of individuals, gender, age,
relationship to household head, etc. All of this
provides the key source data, but the estimates
and the indicators required for analysis have to
be constructed from it. For example, household
income estimates, which constitute some of the
key statistics for poverty analysis, have to be
built up and derived from the source data pro-
vided. The same is true regarding expenditures,
although they are generally less problematic in
case and usually more reliably reported in prac-
tice than incomes. The IS will provide a
wide range of additional information to facilitate
a number of alternative classifications based on
the characteristics of either the household as a
whole, the household head, or of other individ-
ual household members.

Indicators of welfare

7.87 At the micro-level of analysis there are
many analytical and empirical issues to be tack-
ed, and from this, the data and information de-
erived from the multi-subject household surveys
are crucial. We have seen that some evidence can
be gleaned at the micro-level to derive core macro
indicators but very little of real substance can be
established about the social dimensions of ad-
justment unless reference can be made to the
effects of adjustment on particular groups in so-
ciety. Analysis of micro-level data and informa-
tion will therefore constitute a major part of the
empirical effort. The present section will consist
of a brief overview, relating especially to empiri-
cal indicators of welfare, the measurement of
poverty (including the derivation of poverty pro-
files), and an indication of how the effects of ad-
justment might be accounted for at the micro-
level. This section will be confined to the ques-
tion of measurement and the information require-
ments that are implied by it, rather than in analy-
sis per se. However, more detailed discussions
of the empirical analysis envisaged to be under-
taken at the country level, especially with regard
to sectors and topics, are presented in Chapter 9.
7.88 A first objective in performing empirical
analysis at the micro level is to be able to identify
the poor and their main economic activities. This
should lead us directly to the identification of the
target group for policy purposes. Having already
established the household as the unit of analysis,
a measure of welfare is required to identify the
poor. Many of the theoretical arguments relating
to the determinants of welfare at the individual
household levels have already been discussed in
Part I and need not be repeated here. But there
are a number of implications concerning the
empirical measures of the standard of living that
have been proposed which require further con-
sideration in the light of survey and other data
requirements. It is manifestly clear that no single
"scalar" measure will suffice as a unifying meas-
ure of household welfare. Each measure has its
relative merits and drawbacks. The wide scope
of the multi-subject household survey will there-
fore permit the computation of many alternative
measures, including those based on income, ex-
penditure and nutritional status.

(i) Income

7.89 Income-based measures are, at first sight,
an attractive way of assessing relative household
living standards. The level of household income
represents the limit to which household mem-
bers can acquire goods and services without run-
ning down their assets or increasing indebted-
ness. We have noted in the earlier discussions in
this volume that households could receive in-
come from a variety of sources and that we may
distinguish two broad classes: primary income
and secondary income. "Primary" income is the
term usually referred to as factor income, whereas
"secondary" income consists of transfers, either
from government or from other households and
institutions. Let us distinguish the income cate-
gories more precisely:

Primary income
- income from employment (wages, salaries,
etc.)
- net income from agricultural holdings
- net income from non-farm enterprises
- rent from dwellings
- consumption of home production

Secondary income
- transfers from other households
- transfers from other enterprises and from
abroad
- transfers from government
Income is not received by all households from each and every source. Indeed, it is precisely because households receive different combinations of incomes that our understanding about the effects of adjustment on different social groups is complicated. Income from employment (employee compensation) is payable to individuals in the household, and there may be more than one employee each of whom could have different skills and belong to different labor markets. Net income from household-based activities (farm and non-farm) generates returns to both self employed and domestic productive assets. Rent from dwellings is included and this covers both actual and imputed income from owner-occupied dwellings. The latter is important especially in the case of cross-sectional analysis, otherwise rental income (and expenditure) could distort the patterns across households. The final element of primary income is also an important item and is the estimated (equivalent market) value of home produced goods and services, which augments both the incomes and expenditures of certain households. This principally affects farm households.

Secondary incomes consist of transfer incomes which are shown above as three separate components depending in their source. It is usually difficult to distinguish such income in the responses from a household survey. From the analyst's point of view, it would be useful to be able to estimate government transfers in cash and in kind because there could be a direct effect on their magnitude as a result of structural adjustment. There is a further conceptual issue concerning the extent to which one should make imputations of certain government transfers to households. Free or subsidized health ought, in principle at least, to be imputed as both an income and an expenditure at a value in excess of its apparent price (Meerman, 1979) if income is to be considered as an appropriate measure of the standard of living. This is difficult to achieve in practice not least because of the multitude of factors underlying the effect of quantity restrictions as well as price distortions, which would affect the imputation procedure.

A well-known practical deficiency of income-based measures of household welfare is the problem of under-recording of income in household surveys. There are a number of points here. First of all, under-recording of incomes can be of two kinds: either incomes are deliberately under-reported by the respondents or, alterna-

7.92 A well-known practical deficiency of income-based measures of household welfare is the problem of under-recording of income in household surveys. There are a number of points here. First of all, under-recording of incomes can be of two kinds: either incomes are deliberately under-reported by the respondents or, alterna-

tively, the survey may fail to pick up certain components. A special effort has been made in the prototype IS questionnaire under the SDA program to minimize the latter by seeking a response even when the household and the production unit do not coincide. But no matter how complex the question paths, it is difficult to overcome the former problem. Second, the under-recording problem appears to affect certain income components more than others. For instance, net income from household enterprises (and, hence, the informal sector) appears to be particularly unreliable, as does the reporting of secondary incomes of all kinds (Grootaert, 1986).

(ii) Expenditure

Expenditure-based measures of the standard of living are considered both more reliable and more satisfactory than income-based measures from several standpoints. First of all, it can be argued that expenditures follow movements in permanent incomes — so that households save or dissave out of transitory fluctuations in their actual income. Second, expenditures are much closer to the notion of “consumption” of goods and services (and hence the satisfaction of human wants) than incomes. Third, expenditures tend to suffer less from under-recording problems and people may tend to have a better recollection of their expenditures than of their incomes, especially if they are asked precise questions about particular expenditure categories. Nonetheless, there are difficulties and drawbacks with expenditure measurements. Some expenditures are household level while many others are individual level and these have to be aggregated. Also, there is a comparable problem on the expenditure side, as on the measurement of income, concerning the imputation of certain items.

The main categories of expenditures can be itemized as follows:

- Household expenditure
  - expenditure on food items
  - expenditure on non-food items
  - consumption of home production
  - rent for housing services
  - transfers to households, government, and other institutions domestic or abroad.

The item “rent” is identified separately so as to account for the possibility that if rent is imputed as an income then it should also appear as an expenditure for that household. A similar remark applies to the imputation of the consumption of...
home production, which particularly applies to subsistence farmers. In some instances, analysts have preferred to base measures of standards of living on simply one component of expenditures — say food expenditure — or some other construct such as the proportion of the household budget spent on food.

7.95 In the case of both income and expenditure measures there is a problem about how to account for the variable household size. Some normalization is necessary and various possibilities are suggested, but they usually amount to a choice between measuring expenditure: per capita; per equivalent adult; or per adult. The difference between the latter two normalizations is that the "per equivalent adult" is based upon "equivalence scales" which requires econometric estimation and is not guaranteed to give usable results (Deaton and Mehlbauer, 1980), while the "per adult" is a more arbitrary approach and relies on choosing weights for children (say, one child equals one half an adult unit). With these normalizations we can generate several alternative measures based on income and expenditure, such as: total expenditure per capita; total household income; proportion of the household budget on food, etc.

(iii) Health and nutritional status

7.96 There is substantial literature on the possible effects of adjustment on the health and nutritional status of individuals (Behrman, 1986; Cornia, Jolly and Stewart, 1987). In principle, measures of living standards based on health and nutritional status are attractive because they directly reflect basic human needs. But it is complex and difficult to analyze the effect of adjustment in these dimensions either from a theoretical or from an empirical standpoint (Behrman, 1986; Scoble, 1989). As regards the measurement issues, there are essentially two approaches here: measures of outputs and of inputs. "Output" measures cover various anthropometric and clinical measurements of individuals in a household, or perhaps of some subset, such as children. "Input" measures primarily relate to food intake. While the SDA household surveys include basic anthropometric measurements of infants, they are not designed to sustain the measurement of nutrient intake.

Measuring poverty

7.97 If agreement can be reached on what the indicator of household welfare should be, the next question to be addressed is: how to determine the extent of poverty within the community? As poverty and its alleviation is certain to be at center stage of the SDA endeavor, data analysis must involve measures of poverty which will be helpful in guiding policy makers and in facilitating links between poverty and the main structural characteristics of the economy. In any measure of poverty, two broad issues present themselves: first, the establishment of the poverty line; and second, the choice of a single index to measure poverty. These issues have already been discussed in Part I, in which the $PV_e$ class of poverty indexes was reviewed.

7.98 A feature of the SDA household-level data is the relatively short reference period that is used in obtaining estimates of annual income and expenditure (usually only two weeks in the current SDA design, though this varies according to whether income or expenditure is being measured, and in the case of the latter, on how frequently the expenditure item is purchased). Although the income/expenditure experience of a household will rarely be exactly typical of an annual income/expenditure for that household, by summing across households unbiased estimates can be obtained for the population as a whole (or for sub-groups of the population) of mean incomes and expenditures. However, as estimates of annual income at the individual household level will not be accurately measured using the short (two-week) reference period, estimates of the dispersion in incomes (and other statistics which depend on the dispersion — for example, the Gini ratio, variance, standard deviation, etc.) will be biased. Scott (1989) has shown that this upward bias in the measure of annual income/expenditure dispersion or variance is both inevitable and large (possibly of an order of over 30 percent).

7.99 It goes without saying that this upward bias in the measure of income variance has serious implications for poverty analysis, since the measures of poverty are also certain to be biased. The direction of the bias for $PV_e$ measures can only be determined empirically, since a priori, the effect on $PV_e$ is indeterminate (depending, inter alia, on the position of the poverty line in relation to the mean). However, there are two sources of conso-
lution for the SDA analyst faced with this problem. First, insofar as the analysis is based on arbitrary poverty lines, the absolute extent of poverty is not so important. Rather, as we have already mentioned, it is the pattern of poverty across the various groups which is of policy concern. It is unlikely that the poverty ranking of the various groups will be seriously affected by this bias (unless the source of the bias — that is the non-representativeness of reference-period incomes/expenditures — happens to be significantly worse for some income groups).

7.100 Second, it is possible that whilst the measurement of income dispersion using short reference periods is subject to this bias, the measurement of expenditure dispersion will be less so. This is because households faced with income variations over the year will tend to smooth out expenditures over the year, based on expectations of the “permanent” income for the year. The evidence Scott compiles to show that the bias is potentially serious is derived from measures of income. Moreover, some of the expenditure items derived in the SDA survey are obtained over a one-year reference period, which will reduce the resulting bias.

Data for micro analysis

7.101 In identifying the major topics which may be covered in an SDA household survey, it is worth emphasizing that the detailed survey content will be determined or adapted at the level of each country. Some of the topics listed may be covered in more detail in some countries and less so in others. Sometimes it may not be necessary, useful or possible to include a particular topic, or it may be necessary to include additional items of information to meet particular analysis and/or policy needs. Having said that, however, it should be noted that the policy objectives of the project in most countries will require most of the main topics to be covered in considerable detail simultaneously on the same set of households and individuals.

7.102 In identifying the type of information to be collected and the related measurement issues, attention must be paid to the category of respondents from whom it may be realistically collected. It is also useful to distinguish between the type of information which can be obtained on a single occasion (either because it pertains to the current situation or because it can be obtained realistically through retrospective questioning relying on the respondent’s memory), and the type of information which by its very nature requires repeated visits to the same household or individual. Most suitable reference periods will also differ among different items. Such factors can be helpful in appropriately organizing the information to be obtained in the survey questionnaire(s), and determining the appropriate survey structure. These points are discussed in greater detail in Chapter 8.

7.103 Several categories may be distinguished in the context of the household surveys concerning the type of units to which the information to be collected pertains and the type of respondents from which it may be collected:

- Simple information which can be easily obtained on a relatively extensive scale by observation or only a brief interview with any member; this can include listing of households, enumerating their basic characteristics for stratification and sampling, as well as for identifying target groups of special interest in the survey.
- General information on the household such as housing conditions, amenities and possession of durables etc. — also obtainable from any adult member but usually collected only for the households selected for the sample.
- More specialized and complex information pertaining to the household as the unit, such as consumption and expenditures, typically requiring a lengthy interview with specified member(s) of the household judged to be the most well-informed on the topic.
- Information on production, inputs, income, etc. pertaining to each household enterprise (agricultural and non-agricultural) as the unit, again requiring interviews with individuals identified to be the best informed.
- Identification of household members and their basic demographic and other characteristics, usually obtainable as a part of the general household interview with any adult member.
- Detailed personal information on each individual member, such as on employment and income, usually obtainable only directly from the person concerned.
- Information pertaining to other types of units outside the household, such as the community, local markets, other organizations and institutions — usually obtained from specially selected “key” respondents.
Household and community surveys

8.1 Before the SDA program embraced new country studies, it was recognized that a full review of the survey methodology was needed. Although initial recommendations had been for countries to adopt the survey methodology developed under the World Bank’s Living Standards Measurement Survey (LSMS) program, it was evident that the focus and nature of the SDA program was fundamentally different from that of the LSMS, which was essentially research oriented. Also, as far as the SDA program is concerned, there were a number of limitations in the LSMS approach which needed to be addressed and rectified. On the basis of extensive discussions with African statisticians and with other agencies and experts operating in the field of household surveys, a number of modifications to the original survey design were proposed. But underlying the proposals there was a fundamental conflict. On the one hand, the survey was considered too limited because the sample was not sufficiently large to pick up all the socioeconomic target groups that were of interest to the SDA, and on the other hand it suffered from limitations because the questionnaire was too large and unwieldy to allow for the rapid production of data for policy decisions.

8.2 Chapter 7 has established the need for a multi-subject household survey to feed into the other elements of the SDA program. It has demonstrated how this underlies the micro-level of the hierarchical information systems and also how it feeds into the requirements of both the meso- and macro-levels. So it is not so much the need for the information such a survey will provide that has been questioned, but the form that such a survey should take. Basically, it has been recognized that what has to be proposed is a flexible approach. The solution proposed by the SDA program is that the household survey can be undertaken in several forms. At one extreme there is what might be called the intensive form, which uses a lengthy detailed, and integrated questionnaire. Its purpose is to provide the necessary information to investigate, in detail, the complexity of the impact of the adjustment on different household groups and to establish the relationship between macro-economic policies and their effects on the household level. At the other extreme, there is an extensive form; extensive in the sense that it is administered to a large sample of households, but uses a shorter and more restricted (or limited) questionnaire. This is more suited to rapid collection of priority information for basic analysis. These two forms of household survey are not substitutes or in any sense alternative manifestations of the same survey. They are complementary survey instruments, each with somewhat different objectives. They are referred to, for the present time at least, as the Social Dimensions Integrated Survey (IS) and the Social Dimensions Priority Survey (PS).

8.3 Alongside the Household Survey Program will be a community data collection program. This
also constitutes an integral part of the integrated hierarchical data system. Its principal objective is to provide baseline and monitoring information on the activities of markets and institutions in the meso-economy. There may of course already be on-going institutional and sectoral surveys as well as price collection surveys and these may need to be coordinated or treated as complementary activities. The community survey will be closely linked to the household survey (either PS or IS) and will be conducted at the same time and by the same enumeration teams. It will seek information on the availability and access to social services and amenities, local institutions and source of employment, market infrastructure, and market prices.

Social dimensions integrated survey (IS)

8.4 The IS aims at providing a complete coverage of the full range of topics needed to better understand the mechanisms of the adjustment process at the household level. The topics include: the size and composition of the household; health; education; and employment status of each household member; access to amenities and services; valuations of durable, productive and financial assets; productive activities, both agricultural and non-agricultural; income, transfers and savings; and food and non-food consumption and other expenditures.

Survey design

8.5 The survey design has been, to a large extent, based on the methodology developed by the LSMS and applied in Côte d'Ivoire, Ghana and Mauritania. An important development, however, is that the data generated through the IS are to be processed and analyzed in the countries themselves, and to this end the SDA program has developed a prototype questionnaire and is preparing a series of prototype manuals for survey managers, field staff and data processing staff. It has also prepared guidelines for sector-specific analysis plans, which are described in Chapter 9. However, regarding the survey design, the survey questionnaire is to be administered in two rounds — a repeat visit to each household — with an interval of two weeks between visits.

8.6 The field work will normally take place as follows. In week 1, an interview team admini-
the length of the individual visits but the disadvantage of increasing overall length of time needed to fill out the questionnaire. The nature of the survey is such that the questionnaire is inevitably large and will take time to enumerate and process, as well as analyze. One of the limitations of the IS is that, because of the length of time needed to enumerate a single household, the total sample size will generally have to be kept to between 2,000 and 4,000 households. This is adequate for providing estimates, or aggregates, at the national level and at fairly broad socio-economic group level, as long as the number of groups is confined to between about 5 to 7. But in order to identify and monitor the welfare of subgroups within these socio-economic groups, a large sample is needed and for this the principal survey vehicle will be the PS.

Survey content

8.9 The prototype household questionnaire proposed for the IS survey consists of 13 sections. It would potentially involve a number of target respondents in each household, as indicated in the panel below.

Social dimensions priority survey (PS)

8.10 The initial objective of the PS is a rapid collection of priority information which can provide some means of making comparisons between groups during the process of adjustment. It is a fundamentally different type of inquiry from the IS. It is a survey that is designed to provide information on what is occurring without necessarily concerning itself with why. Diagnostics is the role of the IS. When repeated in subsequent years, the PS takes on a monitoring role and is used to measure changes in key indications over time. Again it is desirable to maintain a relatively large sample so as to be able to present these results at a relatively disaggregated level. As a rapid appraisal device the PS should contain certain key features.

8.11 First, given that the principal aim is to provide rapid results, the questionnaire needs to be of strictly limited length. Essentially the survey should be concerned with the collection of information to construct key socio-economic indicators. These indicators can then be used to identify changes in the circumstances faced by household groups and to flag potential problems punctually, so it is at least possible to take remedial action. Although the range of subject areas is similar in both the PS and IS, the number of variables per subject area is very considerably reduced. The survey should aim to establish possibly no more than five or six topics per subject area. The goal is to restrict interview time so as not to exceed one hour. This very considerable reduction in the length of the questionnaire im-

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<tr>
<th>Section</th>
<th>Round 1</th>
<th>Target respondent</th>
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<td></td>
<td>* Household roster</td>
<td>All individuals in the household</td>
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<td></td>
<td>* Education</td>
<td>Household members aged 7 and above</td>
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<td></td>
<td>* Health</td>
<td>All household members</td>
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<td></td>
<td>* Employment and time use</td>
<td>Household members aged 7 and above</td>
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<td>* Migration</td>
<td>Household members aged 15 and above</td>
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<td></td>
<td>* Respondents for the second round</td>
<td>Head of household</td>
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<td></td>
<td>* Housing</td>
<td>Head of household</td>
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<tr>
<th>Round 2</th>
<th>Target respondent</th>
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<tr>
<td>* Agriculture and livestock</td>
<td>Household members who are holders</td>
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<tr>
<td>* Food processing and consumption of own produce</td>
<td>Most knowledgeable household member</td>
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<tr>
<td>* Expenditures</td>
<td>Most knowledgeable household member</td>
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<td>* Non-farm enterprises</td>
<td>Manager of the enterprise</td>
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<td>* Income transfers; miscellaneous income and expenditures</td>
<td>Head of household</td>
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<td>* Assets and credits</td>
<td>Head of household</td>
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<tr>
<td>* Anthropomorphic measurement</td>
<td>Children aged 3 — 60 months</td>
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plies more rapid processing and simpler analysis, all of which helps to reduce the lag between data collection and the production of survey results.

8.12 Second, the use of shorter questionnaires allows for an expansion of the sample size. The limitations of the IS sample size have already been mentioned. The PS involves much shorter interview times and can overcome this. It may be administered to sample sizes of up to 8,000 or even 10,000 households. Not only can the PS sample be made larger in absolute terms, but the design can also be made more efficient by reducing the adverse effects of clustering through an increase in the number of primary sampling units (PSUs). A consequence of this is that there is an opportunity to identify much more precisely those household groups most at risk from adjustment and hence to strengthen the quality of cross-sectional analysis.

8.13 Third, for the PS to act as an effective monitoring device it must not only be concerned with cross-sectional analysis but also with the detection of trends. Hence, unlike the IS, it is a survey that should be administered regularly, probably annually. The PS is a survey that may also be used to meet other limited national information needs including, for instance, providing rapid estimates of agricultural production or providing an input into a nutritional surveillance program.

8.14 In limiting the detail of the PS relative to that of the IS it does not necessarily follow that the scope should also be limited. It is important that the PS be designed so as to enable the vulnerable groups to be identified as well as eventually monitoring the changes in their well-being. This implies that the variables or topics that are included in the questionnaire should be chosen to cover the necessary data requirements for constructing key indicators. Moreover, it means that the PS should reflect a pre-determined prioritization of data and information which may well be country-specific as well as specific to the needs of the SDA program. The establishment of these statistical priorities is a non-trivial exercise. For the first application of the PS, relatively few guidelines may be available at the country level and consequently the country may have to rely heavily on the prototype PS questionnaire that has been developed by the SDA. However, the subsequent execution and analysis of an IS will provide valuable insight into what key indicators appear to be closely correlated with poverty and vulnerability and consequently what modifications need to be made to the next PS questionnaire. Some preliminary remarks on priorities can nevertheless be made which have influenced the design of the prototype PS questionnaire.

8.15 In the intensive version of the household survey (IS) it is suggested that detailed inquiries can be made about the receipts and expenditures of households, both in monetary and non-monetary terms. The discussion recognizes the fact that income concepts are much more difficult for most (if not all) respondents to comprehend than are expenditure concepts, as well as being generally more sensitive information. Incomes are usually derived from several sources: more than one household member may earn employment income; other factor incomes may be generated from agricultural activities and non-farm enterprises; and there may exist some miscellaneous incomes and other transfers. The inherent complexity of the income generation process means that most respondents cannot be expected to give accurate (and meaningful) responses to general questions about household income within the context of a short survey. The experiences of household income and expenditure surveys in Africa consistently highlight the quite severe problem of under-reporting of income. Against this, and notwithstanding well-known difficulties in reporting expenditures on certain items, expenditures are not only more reliably reported but questions about them are conceptually more easily comprehended by respondents. This, incidentally runs counter to the experiences with similar income and expenditure surveys carried out in developed countries. All of this suggests that, for the PS it might be prudent to prioritize in favor of information on expenditures and to make little or no attempt to collect information on incomes except possibly on sources of income. Even expenditure data will be very difficult to obtain on the basis of short single-visit interviews. Thus the prototype PS questionnaire suggests that questions are only asked on:

- expenditure on key social services (school fees, medical expenses and housing) over the past week;
- expenditure and consumption of key staple foods over the past week;
- sources of income, and possible amounts of key items.
Survey design

8.16 The design requirements for the survey have to be specified in the light of, and with reference to, the conditions prevailing in each participating country. At this stage it is only possible to make general recommendations, based on the proposal for a rapid survey that can easily be repeated at regular intervals. Some of the basic requirements are as follows:

- a sample size that is large enough to identify and analyze more household socio-economic groups than is possible with the IS. Depending on the country this might be up to 20 groups;
- data to be collected on a single visit to each household;
- data to be collected by interview with a single respondent in the household and this interview to last for no more than one hour;
- a multi-subject survey, covering a subset of the topics included in the IS;
- data to be collected and processed quickly with a target of about three months from the date of collection to the preparation of basic data files, including possible basic tabulations.

8.17 The restriction of the data collection to a single, one-hour interview with the selected households means that it will be necessary to obtain the required information from a single respondent, say the head of the household or some designated adult. This means it will be necessary to restrict the data to those items which a single respondent may reasonably be expected to know. From the PS it will not be possible to explore intra-household distributional issues.

8.18 The need for rapid data processing also dictates that the questionnaire should have a very simple structure. The aim should be to have all data items recorded at the household level which will mean that there will be a simple file structure which will permit very rapid processing with a minimum of file manipulation.

8.19 Another important consideration will be the specifications of appropriate recall periods for certain variables. In the IS the two-visit framework provides an obvious bounded recall period for many of the key variables. In the PS this does not apply, and appropriate recall periods will have to be specified. A further consequence of the fact that the PS is designed as a single visit survey with a relatively short reference period is that the de facto rather than the de jure definition of the household may be preferred. Also because of the limited interview time a complete listing of household members may not be possible.

8.20 The basic sampling design for the PS will be a stratified, multi-stage design, having many features in common with the design for the IS. When considering the “monitoring” objective of the PS, an important question involving survey design is to know to what extent it is possible to follow up and revisit respondent households. This depends upon the effectiveness of the listing procedure and the reliability of maps and other information regarding location as well as on the rate at which households move. Assuming that listings are fairly reliable for periods of up to approximately 12 months; then it may be possible to introduce a longitudinal (panel) element into the survey design when the survey is to be repeated over time.

8.21 At least two possible alternative designs may be considered for the PS survey. It might be useful to consider briefly some of their relative merits, especially in relation to their resource requirements.

(i) Single-round annual survey
The simplest design where an independent annual survey is carried out in a single round throughout the country. It may well be the preferred option in the first year, when a country is still gaining experience in how to implement the PS. The main advantage is that results for the whole survey would be available at the same time and would permit comparisons across household groups. The design also has the great merit of simplicity which may lead to the production of results more rapidly than if a relatively more complex design is used. The disadvantages are:

- high resources cost, including a large team of supervisors and enumerators for only a one- or two-month period each year. Also the design provides no insights into seasonal variation.

(ii) Annual survey divided into three or four rounds
The sample could be enumerated in three or possibly four rounds over the twelve-month period. Providing an interpenetrating design is used whereby each stratum or each PSU is represented in each round then comparisons can be made between rounds. The advantages are:

- reduced resource costs, (fewer enumerations are required at any one time and the workload is spread over the whole year); possibility of estimating the effects of seasonal variation. The disadvantages are that: data from the whole survey will not be available until its completion, that is, after one year, although preliminary results from
each round can be produced on the basis of a reduced sample size; aggregation between rounds will need to take account of the effects of seasonality as well as trend variation, which will make the analysis more complex.

Survey content

8.24 The prototype PS questionnaire currently covers eight sections and, to some extent, parallels the prototype questionnaire of the IS, as follows: household member details (education; health; employment); income and expenditure; education; employment; housing; agriculture and non-farm enterprises; migration; assets and investment. The precise list of topics to be covered will, however, always be kept flexible so as to accommodate country-specific concerns and so as to take account of the requirements of the detailed Analysis Plans both in general and in relation to their application to a particular country. The overall initial emphasis of the survey must be towards seeking a rapid collection of priority information on key indicators of welfare but with subsequent and annual repeats, assuming more of a monitoring role.

Relationship between the IS and PS

8.25 It has already been mentioned that the two versions of the household survey, the IS and the PS, have certain complementary features. The former is intended to be used for diagnostic purposes while the latter is to provide information for initial cross-section analysis and then to assume more of a monitoring role in subsequent years. The manner in which the two surveys may be interlinked and the order in which they are executed may vary from one country to another. This will usually depend upon the country's statistical capacity, its ongoing survey program, its existing infrastructure and on its information priorities in the context of the hierarchical information system. Two somewhat stylised situations will best illustrate possible alternative household survey programs.

(i) Countries with a well-developed statistical capacity

8.26 We first refer to countries in which there already exists a capability to mount, manage and complete large-scale household surveys. In this case it should be possible to mount the integrated survey (IS) relatively early in the survey program but, in any event, it is envisaged that the priority survey (PS) would, in most cases, be instituted in the first year so as to obtain a rapid, cross-sectional assessment from a relatively large sample of households. The IS would then be undertaken in the second year and should provide the information required for more detailed, in-depth analysis. In the third and fourth years further PS rounds would be undertaken but these would now assume more of a monitoring function, perhaps even incorporating a small panel element.

(ii) Countries with a less-developed statistical capacity

8.27 At the other extreme of a possible spectrum of statistical capability are those countries which are not yet ready to undertake the IS. In these instances, the priority survey (PS) would be carried out in the first two, three or even more years on an annual basis, prior to an IS. Even if the capacity to carry out the integrated survey does not exist, it is still important to maintain a regular information base. Therefore, the priority survey may have to be maintained to provide the necessary minimal information for SDA purposes over possibly several years. The long-term objective would, however, be to build up sufficient capacity to undertake more complex surveys of the IS type by the fourth or fifth year.

Community surveys

8.28 Chapter 7 has highlighted the fact that one of the distinguishing features of a hierarchical information system is that it will provide data that will allow for the analysis of the linkages existing among the three levels, macro, meso and micro. The household surveys described above will be one of the main sources of information on activities at the micro-level, but these have to be coupled to data generated at the meso-level. For this purpose, the SDA is working on the development of community-level data collection systems which will make a key input into the overall information system.

8.29 This is an area in which there is as yet relatively little experience to draw upon to guide the development of appropriate methodologies. Although community surveys have been carried under a number of programs, the results have in
many cases been disappointing, possibly as a result of the fact that relatively little methodological development has, as yet, gone into the issues of community level surveys. It has also been the case that, when coupled with a household survey program, the bulk of resources and time has tended to go to the household survey at the cost of the community survey. One of the more important programs in the 1970s and early 1980s to use community level data was the World Fertility Survey, but compared with the SDA, the collection of community-level data was a secondary priority. Community data have also been collected under the LSMS program and useful lessons can be learned from these experiences in both Africa and, more recently, in the Caribbean.

8.30 Under the SDA program, it is essential that information related to activities at the meso level is made regularly available and that it can at the same time be linked to activities at the micro or household level. It is for this reason that considerable importance is attached to the community survey program. A first objective of the community survey is to collect community level variables, such as prices and information on social and physical infrastructure, which will be analyzed both to provide baseline information as well as to record community-level changes over time. The primary objective of such analysis is to monitor and study the effects of macroeconomic policy at the meso level (macro-meso linkages). This is an essential first step. The second objective of the community survey must be to provide community level data which can be easily and readily integrated with the data collected through the household surveys so that the effects of changes at the meso level can then be studied at the micro level (meso-micro linkages). This means ensuring that the community data are collected not only at the same time as the household data but that they are also collected from the same communities to which the sample of households belongs. It thus becomes a parallel and integrated field activity, and this integration then continues through the processing and analysis stages in such a way that it is possible to consider the development of a totally integrated hierarchical file structure extending from individual-level data, through household-level data, and up to community-level data. A third objective of the community survey is to collect, at the community level, information which will be common to all households in the community such as access to and availability of various social amenities, consumer and factor prices. By collecting such information at the community level, rather than at the individual household level, the overall household interview time can clearly be substantially reduced.

Survey design

8.31 One of the most difficult methodological issues rests in the definition of “community”. Communities can embrace a wide range of social groupings, and individuals and households can and do belong to several communities at the same time. At the lower end, a compound can be considered to be a community and at the larger extreme, a community can embrace a village, clan, region, or even a nation. Communities are thus neither mutually exclusive nor is their composition (or even location) static. In any social survey, it can be noted that, as the size of the enumeration unit grows, so does the definitional problem associated with that unit. The difficulties of arriving at a standard definition of a household have already been referred to, but such definitional problems are magnified when considering the definition of a community. Currently there is no standardized definition which is being applied in the SDA survey program and this needs to be the subject of further methodological research. For the time being, the community has been somewhat arbitrarily linked to the area unit or Primary Sampling Unit (PSU) used for the sample design. In most cases this corresponds to a collection of some 200 to 400 households which, in rural areas, would be roughly equivalent to a village. Thus, the rural community is taken to be the village. This is not an unreasonable assumption since the village is, in most circumstances, a natural and traditional community grouping with which the members can readily identify. It also provides a physical unit which is relatively easy to locate and identify. Urban areas present greater problems since the PSU may represent a relatively imprecisely defined cluster of households, such as a block or street, which has little or no sense of social cohesion, or unique set of infrastructural or meso-level resources. The link between the urban community and the PSU does not therefore stand up well and an alternative classification needs to be applied. What this unit is likely to be will depend considerably on the country and the town/city being enumerated,
but in most cases it will probably be linked to administrative boundaries, such as an urban parish or council. Smaller urban areas may well be taken to be entire communities in themselves.

8.32 Unlike the household survey, in which the interview can usually be conducted at a single place, the community questionnaire may involve visiting several different locations and persons to obtain the necessary information. There will, in fact, be no fixed respondent who is required to supply all the community level data. Rather, the information will be collected from a variety of sources including the village chief or elders, the local schoolmaster, local government officials, market officials, etc. This will involve the interviewer having to visit various locations and having to talk to various people when completing the questionnaire forms. For this purpose he will not necessarily have a list of names of persons to interview, but rather, he will have a checklist of sources to contact. The process of filling out the forms is consequently quite different from that of a standard survey interview, and will tend to resemble more, a research or fact-finding assignment.

8.33 It is intended that the community questionnaire be filled out at the same time as the household questionnaire and that the task of completing the community questionnaire be normally assigned to the field supervisor, while the rest of the enumerators are interviewing households in the PSU concerned. The use of the supervisor is proposed because, on the one hand, the task is a more difficult and exacting one and, on the other hand, the work has to be done following a less rigid timetable and itinerary. Greater flexibility will also have to be shown with regard to the interview techniques. Whilst some of the data may be collected on the basis of a one-to-one interview with a selected respondent, other elements may be collected through group interviews with a panel of respondents, or even through a search of administrative files and documents. Additionally, although the type of data that are likely to be required will be mostly quantitative, they may increasingly be supplemented by qualitative community data, as skills in carrying out such interviews are developed. All of which points to the need for extensive training of the data collection staff in order to build up the considerable skill and experience that will be needed to carry out the work successfully.

8.34 The survey instrument needs to be kept very flexible and capable of being easily adapted or expanded to meet local needs. As such, it is more appropriate to think in terms of a set of community questionnaires in the plural, than of a single community questionnaire. For example, a community survey may contain a core questionnaire which records basic information on the existence of infrastructural resources and on the availability of social and other services. But it may also be considered desirable to collect additional information from the institutions responsible for these services, such as schools, health centers, etc.; also to collect price information from the local market. In such circumstances, the core questionnaire will need to be supplemented by a health center questionnaire, a schools questionnaire, and a market price questionnaire.

Survey content

8.35 Given the need for flexibility, it is likely that there will be considerable variability in the design and content of the community questionnaires. Unlike the IS, which limits the reference period to events occurring in the past 12 months, and the PS, which uses a much shorter period of, at most, 3 months, the community survey can be used to build in a longitudinal element. This can be used to compare the current situation with earlier time periods. Thus, the questionnaire can include such questions as: what is the main source of drinking water for this community now? What was it one year ago? What was it 5 years ago? Such questions can be linked to key macro-economic policy changes and can be used very effectively to identify the effects of such policies at the community level.

8.36 The survey can be expected to include questions on the following topics: location and geographical setting (including agro-ecological zone), physical infrastructure (including roads, buildings, markets, community and civic amenities), distances to physical and social amenities, description of social and physical amenities (these may be collected through the supplementary questionnaires and may include such information as availability of teachers, school books, medical staff, essential drugs etc.), availability of government and other services (such as agricultural extension, credit, immunization services etc.).

8.37 One item of information that is of special interest, is that of prices — both producer and
consumer. Prices are required not only to fill in key information gaps in the household questionnaires, but also because the analysis of prices in their own right will be one of the most immediate means of gauging the effects of macro-economic policies at the meso level. Thus, a price questionnaire will almost inevitably form a key element of the community questionnaire. The price questionnaire will be used to collect prices of key commodities prevailing in the community at the time of interview. When implementing a program of price collection, a number of technical questions have to be addressed. These include selecting in which market to collect the prices, selecting the transaction level (wholesale, retail etc.), selecting an appropriate unit for which to record the price, deciding on the number of prices/or transactions to observe to establish an average price, deciding on issues of product definition, grading and standards and so on. These issues are not discussed in depth in this document but are thoroughly reviewed in a number of technical manuals produced by such UN technical agencies as the FAO.

Integration of the SDA survey program into ongoing survey activities

8.38 In proposing a hierarchical data collection program, as outlined above, the SDA is proposing the establishment of a long-term demand-driven program which will serve a variety of needs, but most importantly, will provide policymakers with ready information to gauge the effects of macro-economic policies on different segments of the population.

8.39 Before leaving the SDA household and community surveys, it is important to consider how such a full data collection program can be fitted into existing survey operations that a national statistical office may be carrying out. Although the need for such survey data has been extensively discussed in Chapter 7, it is undeniable that in most African countries today, statistical resources are limited and there will be multiple and potentially conflicting demands for these scarce resources. Thus, at the outset, it is important to recognize the premise stated in Chapter 7 that statistical programs should be demand driven and should be implemented in response to clearly identified national needs. It is for this reason, that the SDA insists on the creation of national Users’ Committees, representing institutions drawn from government, private and public sectors, which will be influential in defining data collection priorities for statistical offices.

8.40 The survey program that is suggested is not intended as a fixed system to be rigidly adhered to and uniformly implemented in each country. It is rather intended to serve as a model which, if implemented in its entirety, would meet the majority of information needs expressed in Chapter 7, but which can be freely adapted or modified to meet an individual country’s needs and to fit in with its available resources. Thus, for instance, if a country recently joining the SDA program has just completed a detailed income/expenditure survey it would be unlikely to feel the need to undertake an IS for the next few years. Similarly on the methodological side, if a country already has an established permanent cadre of field enumerators and supervisors, it would not be expected to replace these with mobile teams of the type suggested in this document unless it specifically wanted to. In particular, it should be recognized that the SDA survey program is not intended to be an imposed program which is to supersede or replace existing surveys, but one which should be tailored to fit in and merge with other survey activities.

8.41 An example should serve to illustrate how this can be made to work in practice. In Ghana, a 4-year survey program has been elaborated by the Ghana Statistical Service (GSS) with the active support and advice of the UN National Household Survey Capability Programme (NHSCP), the Economic Commission for Africa (ECA) and the SDA. The program is, to a considerable degree, modelled on the SDA survey program described above yet at the same time it displays important national identity of its own. Under this program, an IS (combined with community level data collection) is to be carried out in the first year. However, because of a national concern to revise the weights used for the computation of the consumer price indices (CPI), special attention is being paid to the expenditure and consumption sections which are being expanded accordingly. In year 2, the GSS intends to implement a PS — but with a slightly expanded section on labor and employment which will take the place of a dedicated labor force survey. In year 3, a PS will similarly be undertaken but with a special focus on informal sector activities of the household. This will be followed by a full evaluation of the program at which time the survey program for the next two years (which will include a population census) will be made.
Sample and survey design issues

8.42 It is not the objective of this document to enter into a detailed discussion of the many technical issues that have to be considered when embarking on a national sample survey program of the sort envisaged in an SDA program. There are already a number of excellent guidelines on the planning and implementation of household surveys that have been produced by the UN Statistical Office, the UN Specialized Agencies and by other bilateral and multilateral agencies. The SDA Unit will also be producing technical documents on survey design, execution and analysis in its SDA Working Paper series. However, the proposed SDA survey program does raise a certain number of key sampling and design issues which are broadly discussed in this section.

A. Definition of the target population

8.45 As noted earlier, the coverage of the household surveys ideally should be national in scope, with households and individuals residing in households as the basic units of enumeration. It is necessary to be more specific and precise in the operationalization of these requirements in the actual survey. The survey population has to be specified in terms of its extent and its content. 44 Population extent refers primarily to the boundaries of its geographical coverage. Though in principle the coverage of the entire country is desired, considerations of cost and practicality may dictate the exclusion of some areas or parts of the population, such as sparsely populated remote areas of certain nomadic groups. Two important points should be noted in relation to such exclusions. First it will be important to ensure that exclusions are as small as possible, and at least that they do not result in compromising the primary objectives of the surveys. In a permanent survey program, it is important to reassess periodically whether such exclusions have in fact remained fully justified and unavoidable, and seek clear justification for exclusion in each case. It may become possible with time to adopt special arrangements to include them, such as by taking disproportionately small samples from the more difficult or expensive parts of the target population. Second, it is important always to document the exclusions. To the extent possible, one should also assess the impact of exclusions on national representativeness of the survey results. Sometimes small exclusions may not affect much the overall estimates from the survey, but may still bias the results pertaining to particular target groups in the population. 8.45 Apart from geographical boundaries, there is also the issue of the time dimension. New units are constantly being created and old ones disappear or change their composition and characteristics. A sample once selected tends to become increasingly less representative of the changing population with passage of time. The same can apply to retrospective information collected from the survey; this is illustrated for example by the much discussed difficulties of interpreting household income for the past year or another period when the composition of the household has been changing over this period. In the presence of pronounced seasonal or cyclic variations, an added requirement is the representativeness of the sample in the time dimension, in addition to its spatial representativeness. What this means is that only a representative selection of time segments (individual months, quarters, seasons) for sample enumeration from an entire interval of interest (e.g., a year) can permit inference from the sample to average conditions over the entire interval of interest. Therefore, in the household surveys, the sample enumeration should be distributed in a representative manner simultaneously both in space and in time.

B. Sampling frame and listing

8.46 As in any household survey, the sample will typically be selected in a number of stages: one or more area stages, terminated by listing and sampling of households (or similar units) within the last stage area units. There are numerous considerations involved in the choice of the number of sampling stages and the type of units used at each stage, such as the availability of sources and materials from which the frame can be constructed, including the cost and work involved; field logistics and sample design and implementation considerations, including cost and quality control requirements; and especially in the context of the PS, requirements of possible repeated and long-term use, including the need for appropriate linkages between different rounds of the survey and for controlling the cost of maintaining and updating the frame. Naturally these considerations (and consequently the choices) will differ among countries. It should also be remembered that the area unit will also serve, in many cases, as a proxy for a community in the commu-
nities survey. However, it is expected that in most developing countries the primary source of sampling frames for are. units will be the most recent population census: the census enumeration areas or other units derived from them, with maps, descriptions and information on size and other characteristics of the units. Even in countries where the last available census is several years old, it is often possible to see the census results, possibly with some addition or updating — for instance rough recount of known areas of high growth.

8.47 By contrast neither the census nor, in most developing countries, any other source can provide a usable frame (list) of dwellings or households for the final selection of the sample. This means that virtually in all cases, listing and sampling of households within sample areas will be unavoidable.

8.48 Careful attention needs to be paid to the quality of listing in order to ensure good coverage, and to ensure that the selected units can be later identified for interviewing. A key issue is the durability of the listing, i.e. what is the maximum period allowable between the listing exercise and the implementation of the main survey. This also has major implications on how frequently the listing exercise needs to be carried out, i.e. should it be every year, every two years? How durable the lists are depends on circumstances and the nature of the units involved. The units of listing can be households, or other units such as dwellings or structures with which households can be associated. Dwellings or structures as listing units can have some advantages. They tend to be less unstable so that their lists are usable for longer, perhaps for up to two years in many situations with settled areas and permanent structures, but less so in developing areas or areas with temporary and make-shift structures. Another advantage is that often dwelling lists can be prepared more quickly than household lists in so far as the former do not require contacting residents. Household lists by contrast tend to be less durable — perhaps usable for no more than a year without updating in most situations — and possibly more time consuming to prepare. However there can also be some important advantages in choosing to list households rather than structures. In rural areas and poorer sectors in cities, structures may be difficult to define, identify and locate. Structures can be variable in size (in terms of the number of households each contains), and hence somewhat less efficient for sampling households. More seriously, there can be problems in uniquely associating households with structures, especially when one household may occupy many structures. Finally, with household listing there can also be more scope for obtaining additional information for stratification to increase sampling efficiency. (This can be important when the survey which follows is complex with high cost per interview.) In the context of the IS, this last mentioned consideration is important in another respect as well: namely obtaining more or less elaborate information on household characteristics to improve the procedures for sampling target groups of special interest, as was discussed earlier.

C. Sample size

8.49 The choice of sample size is one of the most basic design decisions in any survey. Despite considerable variation in country circumstances and requirements, certain basic considerations apply. First, what is feasible, manageable and sustainable is limited by the available budgetary and technical resources. Second, for the survey to be useful for immediate policy purposes, it is essential that the data are collected and processed in a timely manner, without delays and accumulation of unused data. Third, non-sampling errors increase with increasing sample size, a relationship which can become particularly adverse beyond a certain sample size under given practical conditions of survey implementation.

8.50 At the same time, however, the sample size must be large enough to yield information with sufficient sampling precision to be useful for policy-relevant analyses. Clearly, the minimum sample size requirements depend on the type of analyses envisaged. The major determinant in this context is the number of analysis domains for which separate tabulations and estimates are to be reported. Sample size for each domain must be sufficient for analyses of many forms of socio-economic behavior among households, taking into account that not all phenomena of interest occur in every household. Therefore, the process of choosing the sample size will generally proceed along the following standard lines. Given the major groups (or analysis domains) for which separate results are required, one may determine the minimum total sample size to meet these analytical requirements. However, it is important that this does not exceed the
maximum sample size which, under given practical circumstances, is considered feasible, manageable and sustainable. If the initial choice exceeds this maximum, then it is best to reconsider and adjust the objectives and reporting requirements of the survey rather than try to impose an unrealistically large sample size. Furthermore, the initial choice may also be improved subsequently on the basis of an assessment of sampling and non-sampling errors involved, emerging policy requirements and possibly also changing practical constraints.

8.51 On the basis of experience gained from surveys similar in type to the SDA household surveys, a minimum sample of 400-600 households is likely to be required for each major reporting domain for the type of analysis envisaged in studying the social dimensions of adjustment. The question then becomes one of deciding how many domains can be studied. While the analytical potential of the survey, particularly for sub-national and target-group analysis, will be generally enhanced by increasing the sample size, the limiting factor in the choice of sample size has to remain the practical constraints of time, human and financial resources. Of course the actual choice of sample size will depend ultimately on the specific requirements and circumstances of each participating country. Countries which are larger and more diverse, which require separate results for more domains, or which have a more developed statistical capability with ample resources, may entertain somewhat larger samples than countries which are smaller and/or statistically less developed.

8.52 Given the diversity of situations that can be encountered in different countries it is difficult to do more than provide broad indications of total sample sizes for both the IS and the PS. As far as the IS is concerned it would most probably be desirable to be able to select some 5 - 7 analysis domains, which would yield an approximate sample size of 2,000 - 4,000 households. For the PS, the objective would be to increase the number of domains to study possibly up to 20, which would yield a sample size of around 8,000 to 12,000 households.

D. Temporal aspects of sampling

8.53 When considering the repetition of the PS over several years, a key issue becomes what should be the appropriate strategy in regard to time. How is the survey spread over the year, whether and when are households re-interviewed, and how (if at all) should the sample be rotated over longer periods.

8.54 As is well known, the sampling precision for the estimation of a difference between two related measurements is optimal when the same sample is used for both measurements. In terms of measuring change over time this translates into the principle that for the best estimate of change one should use a longitudinal design. If the primary objective of the survey were only to monitor change, the implication would be that, for optimal sampling precision, a permanent panel of households should be used. There are, however, other considerations.

8.55 First, in most African countries, households, in some regions at least, are highly mobile. In urban areas change-of-address rates around 40 percent in a year have been recorded in several studies. Even when the household does not move, its composition is liable to change. The resulting instability would bias any panel very quickly. Second, one must expect resistance to build up eventually as interviewing is repeated, even though there is, as yet, no direct evidence from African panels that this is the case. Third, with the high rates of population growth and of urbanization found in Africa the environment often changes rather quickly. Relisting of households is essential every year or two if the sampling frame is to remain representative. When such relisting occurs the panel has to be revised, at least in part. The resulting change leads to difficulties of interpretation. Finally, monitoring of change is not the only survey objective. The need to maintain good cross-sectional estimates remains very important.

8.56 These arguments weigh against the attempt to follow the same households over long periods. But they do not vitiate the policy of following the same households over a short period, nor the policy of following the same areas over long periods. This raises the issue of how data collection should be spread.

8.57 There are two good reasons for wishing to spread the field work evenly over the year. First, there are seasonal variations, as well as one-time peaks and troughs, in most variables which will distort any conclusions based on a short-period survey. Second, the investment in trained field personnel, in vehicles and in local micro-computers will be more efficiently used if the survey is more or less continuous over the year. These arguments may lead one to propose
a sample design for subsequent rounds of the PS which would break field work up into several rounds (3 - 4) spread evenly across the year.

E. Sample allocation

8.58 Given the SDA objectives to identify and study different target groups, it is necessary to ensure that sufficient numbers of observations are obtained in the household survey samples for reliable analysis of each target group of interest. Since the target groups will generally vary in size, the above may require that they are sampled at different rates. Allocation of the total sample size available to different target groups (or analysis domains) so as to produce group-level as well as national-level data with the required precision is an important sample design question.

8.59 To begin with it may be noted that there can be strong advantages of simplicity and convenience in having a “self-weighting” sample which is allocated proportionately among analysis and sampling domains — with such a system for differential sampling (though that may still be useful for stratification) or to preserve and use sample weights at the analysis stage. In so far as unit variances and costs do not differ greatly among domains, proportionate allocation is also the most efficient scheme for estimation and analysis at the national level. It can therefore be argued that disproportionate allocation (differing sampling rates) should be introduced only when analysis domains differ considerably in size and/or in the unit variances and costs involved.

8.60 However, despite the possible simplicity and convenience of having a self-weighting sample design, in general many countries may find it necessary to allocate the sample disproportionately, particularly if the target groups of interest vary considerably in size. Given the rather severe constraints against increasing the overall sample size, the smaller among the target groups may achieve adequate sample sizes only on the basis of disproportionate allocation. Over-sampling of the urban sector may be quite common, both because this sector is relatively small in many countries and because it is often more heterogeneous and variable compared to rural areas.

8.61 To apply varying sampling rates is straightforward when the groups to be sampled differentially are defined in terms of geographical criteria and separated into different sets of areas. It is more difficult to do so when the groups are defined in terms of individual characteristics and are mixed within sample areas. Here the relevant information must be collected at the listing stage to screen and stratify the units before sample selection.

F. Questionnaire development

8.62 One of the most important aspects of survey design is the precise definition of the data to be collected, and the translation of the data requirements and related concepts into detailed questions which the survey respondent can comprehend and answer correctly. Questionnaire design affects all aspects of data quality: including relevance, timeliness and accuracy of the results; it can also have an important effect on survey costs. The SDA has consequently devoted a major part of its survey development efforts towards the design and development of prototype questionnaires which can satisfactorily meet the program objectives. These prototypes are essentially models, which provide countries with a set of basic ideas and designs which, within certain limits, can be modified and adapted to meet local conditions and requirements.

8.63 The most basic consideration in developing the prototype questionnaires has been the content of the survey. One should always start from the substantive objectives and the end product expected, and work backwards to the actual instruments and procedures required to achieve them. In this process the objectives of the survey may themselves be refined and even revised. It is thus that the questionnaires and the analysis plans have been developed hand in hand. In developing the prototype questionnaires, the SDA program has drawn extensively on the experience of statistical agencies, organizations and individuals that have worked on the development of socio-economic and demographic survey programs in Africa. The result should, however, in no way be considered the final word. The availability of objective methodological experimental results is still very limited and even where plausible question sequences have been formulated, the available experience and knowledge have not been sufficient to choose decisively between alternative approaches. It is thus the intention of the SDA program to promote more or less formal experimentation to scientifically test and compare alternatives. The design and execution of experiments which can yield useful information for
unambiguous decisions and choices is a highly technical task requiring specialized knowledge of statistical methodology but is one that, in the long run, is considered to be essential to improving the quality of statistics in Africa.

8.64 The prototype questionnaires will serve as models, but will need adaptation at the country level. Once a definite version of the questionnaire has been drawn up, it will still be necessary to test it — perhaps test it repeatedly — before it becomes acceptable for routine use in any particular country. For a complex questionnaire containing many novel features, as the IS questionnaires does, the testing needs to be an iterative process during which an improved version from previous testing is subjected to further testing until a satisfactory product is obtained.

8.65 Specially careful attention needs to be paid to issues relating to question wording and translation in view of the complexity of the information being sought and the complicated language situation in many African countries. The current versions of the IS and PS questionnaires are a mixture of verbatim questions (the wording of which is fully elaborated in the questionnaire), and the more concise schedule or tabular forms (in which only the items to be enumerated are briefly listed). As a general rule, when verbatim questions are used, it is desirable that they are also translated into the most commonly used languages for the interview. Although considerable experience was obtained through the World Fertility Survey on the value of translating questionnaires into local languages, the decision to do so has to be carefully weighed against the logistic and cost implications of such a decision. In general, the SDA program is advising that, for complex multi-subject questionnaires such as the IS, the forms should not be translated. This is however a decision that should be made at the country level.

G. Data processing

8.66 Timely processing and analysis of the data is a most critical requirement in the implementation of the surveys, most notably the PS. The advent of the micro computer has revolutionized data entry procedures. In “classical” data entry procedures, data entry would occur centrally after completion of field work. Increasingly nowadays there are moves to decentralize data entry by using micro-computer facilities accessible to interviewers working in the field. This system provides a capacity to identify and correct errors while the interview team is still in the sample area. There are several important prerequisites to the application of this approach: relatively mobile teams of interviewers; multiple data entry facilities each of which remains accessible to and can cater for the requirements of interviewers working in the same general area, and can keep up with the speed of data collection; skills to use these facilities; and pre-coding of items in the questionnaire. If the questionnaire contains items or verbatim responses requiring coding then either the items must be coded in the field, or left out to be dealt with at a later stage in a more “conventional” manner. It may be that interviewers or, more likely, data processing clerks with the data entry team can be trained to code some items in the field, but other more complex items may still have to be left out for subsequent treatment at a more central location.

8.67 Such systems have been successfully used by the LSMS and on the basis of this positive experience, it is possible to recommend the system of decentralized data entry for the household and community surveys. The mode of fieldwork organization can be as described earlier: teams of interviewers making one or more visits to the same area and households. Two or more visits are likely to be the norm for the IS, in which visits are separated by a specified short interval during which a nearby station's data entry team enters and edits the data for the previous interview sub-round. This can be fed back to the interview team for correction if the team is returning to the sample area.

8.68 With the development of lap-top computers for use by individual interviewers, it may be possible to go even a step further. As technology in this field is changing rapidly a constant watch on developments will be essential. If the use of lap-top computers becomes generally feasible, it may have major implications for survey organization and design. The interviewers will be able to check the information for internal consistency during the interview itself; there will be no need to go to a central point for data entry; logistic problems of supplying interviewers with correct versions of questionnaires in multi-lingual countries may also become simplified. At the same time it is important to keep in view possible limitations in the general applicability of the approach. It needs to be demonstrated clearly that the presence of an unfamiliar mode of recording the in-
formation does not adversely affect the atmosphere of the interview. But more seriously perhaps, there can be a danger of interviewers applying inappropriate corrections in case of inconsistencies being found in the reported information.

**H. Fieldwork organization**

8.69 The recruitment, training and supervision of interviewers, data processing clerks and other operative staff are obviously major factors in determining the quality (and cost) of the data collected. The requirements, experience and practices, as well as available possibilities, in this respect will vary greatly between countries, and no single model can (or should) be recommended to suit all situations. Some general principles may, however, be stressed. As the SDA surveys involve continuous operations, the staff will generally have to be employed on a full-time basis. However, the employment does not have to be on a permanent basis, though retaining staff will help in maintaining continuity, improving standards and maximizing returns from investments made in establishing the survey organization. Some high quality international programs of surveys such as the World Fertility Survey have demonstrated beyond doubt that thorough training is the key to data quality. The SDA survey programs in countries should draw heavily on such experience. Furthermore, in a continuing survey, the staff must be retrained and reassessed periodically, especially when any changes in methods or procedures are introduced.

8.70 The next issue is the mode of organization of fieldwork. In the extreme form, two modes may be distinguished: the use of highly mobile teams of interviewers, working together with field supervisors in the same sample areas and moving together from one area to another as the work is completed; versus the use of fixed enumerators, often recruited locally, each deployed singly in a fixed sample area for an extended period, with the supervisors generally residing in a separate place and visiting the interviewer periodically. Though not necessarily in this extreme form, the two systems are typified by the practices followed in, respectively, some international survey programs in developing countries (e.g. the WFS, DHS, LSS), and that in several African countries, especially in agricultural and other surveys involving physical measurements. Each system has its own merits and shortcomings. The use of mobile teams generally permits better supervision and control of fieldwork and more efficient sample design (in that with mobility, a given number of interviewers can cover a larger number of sample areas). The sample rotation pattern and other aspects of the design can be determined more flexibly. As recent experience shows, the system also permits decentralized data entry and computer editing. The major difficulties of the mobile team approach include the need to provide transport facilities for the use of each team; higher travel costs and costs of temporary accommodation in sample areas; and possibly also lower rate of work due to the time lost in movement between areas, which can be substantial when all members have to wait to move together till the last one has finished the work. It may also be more difficult to recruit interviewers locally, which can be desirable in certain situations, e.g., with shape differences in local customs and languages. In situations where the alternative fixed deployment system is long established, there may be added difficulties and costs involved in changing to the mobile-team system.

8.71 Actually in practice the contrast in travel costs between the two systems is often not as marked as it may first appear. For instance, with mobile teams the amount of travel can be reduced by confining the work of any team to sample areas which are relatively close to each other. Some of the other disadvantages noted above can be usually reduced by reducing the team size. Exceptions can also be made, for example by deploying interviewers individually in some of the more remote or special areas. Occasionally it may be possible for the teams to use public transport. There may not be much difference in travel in any case in urban or other densely populated areas. From the other side, there can be a fair amount of travel involved in the so-called “fixed” system too. For one thing, supervisory staff still need to be mobile; in fact proper supervision of interviewers stationed individually in sample areas may actually require more travel by supervisors than that required with the alternative system. Also, the “fixed” enumerators have to be brought in periodically to a central location for retraining. The above qualifications are not intended to deny that in many situations important differences in travel costs between the two systems do exist.
8.72 On balance it appears fairly clear that in general some form of mobile-team approach will be desirable for the SDA survey program because of the need to ensure better quality control and speed of data processing. However, as in the case of other aspects of the SDA program work, the mobile team approach can be applied flexibly according to individual country circumstances, making exceptions in cases where necessary, as for example in certain more remote and sparsely populated areas with difficult travel conditions. There is also scope to vary the mobility required by adjusting team size and allocation of fieldwork. For some statistical offices in Africa, participation in the SDA program may actually provide a unique opportunity to break out of the rather inefficient patterns which have grown as a result of severe cuts in operational resources available for field work. However, if the fixed deployment approach has been working well it is not mandatory that an alternative system should be introduced.

Quality control

8.73 The usefulness of statistical data depends on their quality. This is particularly important in the case of the SDA surveys, the explicit objective of which is to provide pertinent policy relevant information. It will therefore be necessary to develop and establish good quality control procedures at all stages. In this regard, there are some basic principles of general applicability. A very important principle is that the evaluation of methods and results should always, from the outset, be regarded as an integral part of the planning, design and execution of the survey. It would be a mistaken policy to consider the mere collection of more data as the primary task, and relegate evaluation to a secondary position. Second, a balanced attention should be paid to all aspects of data quality: to the relevance of its content to the identified objectives and uses; to its timeliness, i.e. speed and punctuality; and of course to accuracy. The complementary as well as conflicting requirements of these three aspects should be explicitly recognized. Third, information on quality needs to be accompanied by information on costs, at least on relative costs of alternative choices available. This is essential for improving survey design and procedure — an important requirement in a continuing survey. Fourth, it should be noted that evaluation of data quality can be demanding on resources and technical skills. It is important therefore to set goals which are feasible and sustainable and to concentrate resources on the most significant issues and problems. Fifth, evaluation of data does not necessarily — and mostly should not — take the form of special (often expensive) field studies; a great deal can be learned from information routinely collected as a byproduct of survey implementation. Finally, attention should also be paid to the documentation and reporting of information on survey errors in an appropriate form, taking into account different requirements of different types of users.

8.74 Maximum use should be made of the information already available, or obtainable in principle, from the survey itself. Analysis of the information routinely obtained from administration of the survey, substantive analysis of internal consistency and relationships in the data obtained, comparisons between different estimates from “internal replications” of the survey, etc., can provide valuable indicators on the quality of the survey results and on types and sources of errors. Computation of sampling errors is an important example of this since in a survey with a properly designed and documented sample, these errors can be estimated on the basis of the survey results themselves. Other sources of evaluation include comparisons with data from external sources where available. In addition re-interviews and other supplementary operations can be undertaken from time to time to identify different types and sources of errors.

8.75 Quality control work has to be undertaken not only at the national but also at the international level in the context of the SDA program. This will permit pooling of effort and resources for the common use of participating countries. It is important to identify, across the diverse circumstances encountered in countries, components of common survey methodology which “work” satisfactorily and those which do not; in the case of unsatisfactory methodology, to undertake experimentation and evaluation to identify better procedures; and to organize channels for the wide dissemination of the results of this effort.
Towards macro-meso-micro analysis

9.1 The collection and collation of relevant and timely data are critical prerequisites of a policy initiative to enhance the social dimensions of adjustment. But they are really only the beginning. The major challenge such an initiative faces is in understanding what it is that determines the micro-economic (or social) outcomes that are observed. In particular, some understanding has to be gained of how structural adjustment policies, both those that have been applied historically and any alternative sets, have affected households. This is a challenge of significant proportions, since the analysis that is applied to the data must be ultimately capable of:

- performing "counterfactual" experiments by tracing what might have occurred had an alternative set of policies been applied;
- tracing these effects through to households in sufficient detail to be of some practical use to policymakers.

9.2 The first of these capabilities implies some form of structured and quantitative appraisal, based on a model (or models) of the economic and social system. Since most models which satisfy the first of these capabilities are limited in the degree of disaggregation that they can meaningfully handle, they need to be supplemented with complementary data analysis which can meet the second requirement. It may be that empirical household models may assist in tracing the household effects in sufficient detail for policy purposes, but these are not the only approaches available. A macro-meso modelling initiative can be complemented by a careful meso-micro analysis of household level data directly without necessarily any formal household modelling. In this way, macro-meso linkages can be examined and at the same time, the implications for different households worked out in sufficient detail for policy purposes. In other words, a useful research methodology for the SDA program would involve a combination of more formal modelling techniques to investigate macro-meso linkages, through which counterfactual-type experiments would be feasible, with survey-based meso-micro analysis of household welfare.

9.3 This is the underlying philosophy in what follows. Our first preoccupation is with establishing methods of analysis from which to gain an understanding of macro-meso linkages. This is then complemented with a discussion of the different types of meso-micro analysis which SDA data should facilitate. We begin with a review of macro and macro-meso modelling approaches, and conclude with a summary of the various SDA analysis plans directed at meso-micro analysis.

Macro-economic modelling

9.4 The purpose of this section is to provide a brief review of some of the modelling approaches that could be used to examine the macro-economic consequences of structural adjustment and,
more specifically, to explore the effects on particular socio-economic groups. For a more detailed discussion and assessment see N’cho-Ogue (1989). As indicated earlier, an ultimate aim is to work towards an integrated macro-meso-micro modelling and analytical framework. At this stage however, the state of the art is such that it is not possible to propose a definitive model or even a class of models capable of tracing the effects from the macro-level right down to the micro-level of individual households. Moreover, even at the macro-level it is unlikely that one simple model specification would be suitable for all purposes. Usually, macro models are designed to focus on particular macro-economic features and to simplify the rest. It is therefore essential to develop and maintain an information system capable of servicing a range of possible models. Our aim here is simply to note some of the existing modelling options and their applicability to SDA issues.

9.5 Before embarking on this review a more immediate question needs to be considered: “Why construct a macro-economic model at all when the ultimate concern is at the micro-level?” The answer to this question is a standard one: the nature of the instruments of an adjustment package (e.g., manipulating the interest and exchange rates) are manifestly macro-economic, even if our concern is to examine the effects on particular household groups. Furthermore, besides the countries themselves, international organizations including the World Bank and its donors are also interested parties in assessing the broad economic and social effects of these policies.

A. Aggregate models

9.6 (i) Econometric It is sometimes suggested that each country should maintain a fairly aggregative econometrically-based macro-economic model for short-term forecasting purposes. Without entering into a debate about the efficacy of building such models for policy analysis in Sub-Saharan African countries, it should be noted that models based on time-series estimates of key parameters are likely to be unreliable. The policy shifts are so dramatic that many parameters will not remain constant and even if time series data span the period in which policy switches there are unlikely to be sufficient observations to satisfactorily estimate the structural breaks. The simple conclusion is that aggregate macro-econometric models are probably unsuitable for SDA purposes.

(ii) World Bank RMSM This family of World Bank “Revised Minimum Standard Models” are rudimentary country macro-economic projection tools built around the macro-economic balances and detailed country debt data. They are designed to project a country’s external resource needs based on alternative GDP and export growth scenarios, together with the resulting debt servicing prospects. Their principal virtue is that they are applicable across countries and therefore are “minimum standards” in the modelling sense. However, they are not flexible in prices, they have no household sectors and are simply not designed to simulate structural adjustment policies. Currently, there are attempts within the World Bank to develop a standard macromodel beyond RMSM that introduces prices and accommodates features of the open economy and yet retains a medium-term perspective. Whilst this may make the model more suitable for analyzing adjustment it would still be deficient in capturing the distributional dimension and is therefore likely to remain inappropriate for SDA purposes in its revised form.

B. SAM-based fixed price models

9.7 The basic structure of a SAM, whereby one can trace the sequence of flows around the economic system has led to the evolution of a class of models which rely on fixed price, fixed coefficient assumptions. Thorbecke (1985) has described such models as “first generation” SAM based models. In essence they are simple extensions of the input-output model whereby Keynesian-type income-expenditure loops are combined with the standard interindustry multipliers to generate consistent income and output effects of any posited exogenous changes in final demand. For example, suppose it is desired to know what would be the distributional consequences (that is, on incomes of different household groups) of a reduction in say government expenditure of 10 percent and/or an increase in export demand of 15 percent. These models work by attempting to trace the consequences on incomes by assuming that any change in demands for products is translated into a proportional change in outlays, inputs and outputs in accordance with the patterns that existed in the base year structure of the SAM.

9.8 The principal appeal of fixed-price multi-
plier models is that they are simple to understand and are similar to widely-used input-output models. They are highly intuitive in terms of the way in which the repercussions are traced around the system. All of this makes them especially appealing to non-technical policy analysts. However, against this there are significant drawbacks, especially in regard to their ability—or inability—to track the effects of adjustment policies. There are three main points here. First, while multiplier models are quite robust under conditions where there are no capacity and skill constraints and where income transfers conform to constant patterns, such assumptions are not necessarily valid for economies undergoing major structural adjustment. Second, they are price insensitive which means they are not at all capable of addressing the key question of what might be the consequences of shifts in the relative prices between say tradables and non-tradables. Third, multiplier models rely on our ability to specify changes in real final demands which is a doubtful exercise in its own right.

Macro-meso modelling

The existence of meso-level activity and, in particular, the roles played by markets and infrastructure, creates a special set of challenges for our quantitative analysis. The fundamental question to be addressed is how to determine empirically the effects of macro-economic policy on individual market conditions and economic and social infrastructure. As in the case of our discussion at the macro level, the issue is much broader than just seeking to establish a particular modelling approach. The ultimate aim within the empirical context should be to set up an information base that is capable of accommodating a wide range of analytical and modelling options in the recognition that there will be considerable variation in the circumstances of each country and in the type of analysis that needs to be undertaken.

It would be ambitious to expect too much from a formal model of meso economic variables. We have already noted the sectoral shifts that take place during a period of structural reform and the probable emergence of private sector activities in small scale agriculture, urban services and transport. Such dynamics as these will affect market conditions but are very difficult to capture in an explicit modelling sense. Nevertheless, there are two quite fruitful modelling approaches which can be referred to in this context, each of which may play a constituent role in analyzing the impact of adjustment. Models can be useful in performing counterfactual experiments in a comparative static setting but it should be emphasized that, given the inherent complexity of the meso-level, there is much to be gained from just observing outcomes, computing deviations from trends in the intervening variables and carrying out a direct analysis on the results.

A. SAM-based computable general equilibrium (CGE) models

Computable general equilibrium models can best be viewed as a further stage in the evolution of the class of models based on the structure of a SAM, although in fact their initial development predates much of the work on SAMs (Adelman and Robinson, 1978). In their most elementary form they may be characterized as single within-period, comparative static models in which there is an explicit representation of the markets for factors and commodities so that supplies and demands adjust to external shocks through changes in relative prices. Within this broad characterization there is a wide range of variants including different specifications of behavioral relationships, closure rules for the markets, and degrees of disaggregation of the factor, commodity and household categories. The behavioral equations describe various agent behaviors such as: factor supplies by institutions (especially of labor services by households); consumers' expenditures; factor demands and commodity supplies. Most importantly, these relationships are usually price sensitive so that factor markets, for example, can be cleared by adjustments in factor prices and commodity markets by changes in commodity prices. But CGE models are sufficiently flexible to allow for rigidities in some markets as well as for alternative closure rules in the system as a whole.

CGE models are more suited to medium or long term analysis and do not purport to parody the actual movement from one equilibrium to another. This is why they are usually viewed as being comparatively static in nature. However, there have been some attempts, even in the earliest models, to make them more dynamic by embedding the CGE component within a two-stage framework, where the second stage gener-
ates the "between equilibrium" shifts. This can help make the models more useful for considering short-run distributional consequences and hence more applicable to the analysis of adjustment policy issues (Michel and Noel, 1984; Der vis, de Melo and Robinson, 1982).

9.13 SAM-based CGE models have a number of attractive features for analyzing the effects of adjustment at the macro level, and this appeal extends to their ability in capturing some meso and micro level features as well. By their very nature CGE models focus directly on the market clearing behavior of economic agents in the system (households, firms, etc.) and on the outcomes in the product and factor markets in particular. They are therefore directly concerned with the operation of markets, one main ingredient of the meso economy, and they therefore potentially provide an important set of signals about the effects of adjustment at the meso level. Of course it immediately follows that the richness of a CGE model in this regard depends critically upon our ability to define the important markets and quantify the mechanisms — "important" in the sense that the outcomes will tell us what we need to know about the effects on household groups at the micro level. For this, the design of the underlying SAM and our ability to derive the requisite information to quantify it becomes a crucial factor in the process. In principle, any number of different product and factor markets can be specified within a CGE framework. In practice, however, the limiting factors are the availability of data and computing capacity and capability. It is almost essential that models should be manageable enough to be solved on a PC since mainframe capacity is usually severely limited in most African countries. Equally, such models do not have to be large to be useful for meso level analysis. It is much more important to focus on those variables and markets which are most likely to affect the poorest household groups. This means identifying the commodities which these households produce as well as consume, and the labor markets in which household members trade their services. If this is not achieved then the CGE model will not capture the meso level as we have defined it.

9.14 It has been noted already that CGE models could capture some, though not necessarily all, the required meso-level features to track the movement of the important intervening variables. Let us briefly indicate some deficiencies which will require special attention and possibly some further research. First, changes in infrastructure can be captured only in an indirect way. Many of these changes are exogenously determined and are independent of the sorts of market forces which a CGE model is designed to capture. Second, the whole question of the response of the informal sector to adjustment policies is difficult to address in the context of a stylized model of this kind, and still less the non-monetized and non-market economies which probably respond to entirely different sets of signals. Third, markets may behave very differently at the regional or community levels than they appear to do in aggregate and our modelling capability does not stretch to cover spatial variables and geographical markets. Nevertheless, and in spite of these limitations, CGE models are a promising approach for linking the macro and meso levels of analysis.

9.15 The data requirements for building a CGE model are almost entirely fulfilled by the information available in a SAM and this is now seen as the best possible framework to calibrate CGE models. It can be noted that CES (constant elasticity of substitution) functions are widely (though not exclusively) used to specify the behavioral components. They have the virtue of being a flexible functional form that allow patterns of responses to be sensitive to changes in relative prices. Generally, the substitution elasticities are obtained on the basis of previous experience rather than direct estimation. Other than this the main statistical requirement is to obtain the most appropriate classification of accounts and corresponding estimates of transactions in a SAM so that the base year shares can be computed directly. CGEs are often criticized as being too complex for the user to maintain an intuitive grasp, but with modern software capability even the model itself can now be specified within the strongly intuitive framework of a SAM. Hence, in parallel with the numerical estimates, one can choose functional forms and specify them in the cells of the matrix and let the software solve the model (Drud, Grais and Pyatt, 1986). Moreover, if it is really desired to generate a fixed price multiplier model then this could be obtained as a special case in which all substitution elasticities are set to zero. Hence the scope for CGE model specification within a SAM framework is now very wide indeed.

9.16 A recent and quite promising macro-economic simulation model, combining some fea-
tures of computable general equilibrium models, has been designed within the OECD Development Centre with a view towards it being generally applicable to a relatively wide range of countries (Bourguignon, Branson and de Melo, 1989). This would be achieved by changing the institutional characteristics that describe commodity markets (e.g., supply and demand elasticities, price formation and quantity clearing); financial markets (e.g., credit rationing, foreign exchange controls); and labor markets (e.g., extent of wage flexibility). Most importantly, it purports to link the short-run impacts of macro-economic policies that affect the distribution of income through inflation, interest rates and other asset price changes with the medium-run impacts of structural adjustment policies arising through relative commodity and factor price changes.

9.17 As a general class of economy-wide model CGEs certainly seem to offer promise, not least because of their ability to incorporate some macro-meso characteristics and their reliance on micro-level optimizing behavior at the household and firm levels. However, while some countries may already be at the stage in the development of a statistical base to be able to implement models of this type, others are not, and for them it may have to remain a longer-term objective. So CGE models should be viewed as just one of a range of modelling options that can be explored on a country-by-country basis to develop an analytical capability for monitoring the social dimensions of adjustment.

B. Multi-market models

9.18 A number of detailed models have been constructed to analyze the impact of policies in a particular sector or group of sectors. Perhaps the most interesting and useful of these in the SDA context is the agriculture sector-or multimarket-model (Braverman and Hammer, 1988). This model is built around the characterization of market equilibrium for a set of interrelated commodities and is based on a system of behavioral equations for both the demand and supply sides. A critical aspect is the specification of the way markets operate and in this regard the models are flexible enough to allow for either price or quantity adjustment as required by the analyst. Also, there are substitution possibilities in both supplies and demands which make these models especially suitable for application to a very detailed set of commodity markets. As already indicated these models are currently restricted to the agricultural sector and have been designed to simulate the effects of agricultural price, tax and subsidy policy reform on supplies, demands, incomes, and on fiscal and external resource gaps. Consequently, effects on the rest of the system are excluded.

9.19 Although these are strictly sector models, they do have certain meso level features in that they focus on market responses in key product markets. Their main strengths are that they allow for relative price changes and show some distributional effects of price and trade policies, and that these effects can be traced at a more disaggregated level than would be permitted by a CGE. There has also been a suggestion that they might be extended beyond the agricultural sector so as to include urban services. But against their obvious analytical and practical appeal, these models do have certain limitations for SDA purposes. To begin with, these models have a weak macro-economic link and are not well-suited to the three-level “macro-meso-micro” analytical framework. Second, because of its partial equilibrium nature, and therefore unlike the CGE model, there is no guarantee that the multimarket model will provide a consistent closure of the commodity and factor markets. It is therefore difficult to see the multimarket as a “stand-alone” model for SDA analysis but it could prove to be a useful modelling component in many circumstances.

An overview of SDA analysis plans

9.20 Having reviewed the main macro-meso modelling options available, this section turns to a discussion of the SDA “Analysis Plans”, designed to improve data analysis in specific social sectors and other key areas of social dimensions concern, with an emphasis on meso-micro interactions. The preparation of these plans was undertaken on the premise that policy makers, planners and researchers in participating SDA countries would benefit from having more narrowly focused guidelines and methodologies for analyzing how adjustment policies affect specific social sectors and the other policy areas. It should be emphasized, however, that the analysis plans are merely guidelines and may not be applicable in every SDA participating country. Needless to say, individual country circumstances and exist-
ing capacities will determine to what extent the analysis plans can and should be used. Seven analysis plans have been prepared, covering the following representative subjects: the Poverty Profile, Employment and Earnings, Smallholders, Education, Health, Food Security and Nutrition, and Women in Development.

Before considering each plan in turn, it is useful to outline the basic approach that is taken in considering meso-micro linkages in the SDA program. A simple schematic presentation of the main elements of the linkages is given in Figure 9.1 The purpose of the exercise is to trace how macro-economic interventions influence various social outcomes at the household level, outcomes such as health and education status, poverty, women’s status, and so on. Macro- and sectoral-adjustment policies are listed in the upper boxes, and these are shown to have effects on both markets and infrastructure — the critical elements of the meso-economy. Both market and infrastructural changes affect households in a number of ways, critically changing their asset holdings, incomes and expectations. In the case of the analysis plans on poverty and on smallholders, this effect on household income is the main part of the story, since they are concerned primarily with assessing how adjustment policies have affected the incomes of the poor (and of smallholders).

For the other analysis plans (health, education, nutrition, women’s status and employment), a further stage in the logic is required, since our concern is not so much with the change in income per se, as with how this will in turn affect other relevant outcome variables (such as nutrition, health or education status of household members, etc.). To understand these effects, a distinction has to be made between demand- and supply-side factors which affect outcomes at the household/individual level. For example,

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**Figure 9.1** Schematic presentation of analysis plans

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Adjustment

- Devaluation
- Trade Policy
- Fiscal/monetary policy
- Market reforms
- Other institutional reforms

Markets

- Labor
- Product
- Credit

Infrastructure

- Social
- Economic

Households

- Household income
- Household assets
- Household expectations

Household expectations

- Demand factors
- Supply factors

Observed outcome at household/individual level
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changes in markets and social infrastructure will influence the effective supply of education services that are available to households (labor market changes may influence the availability of teachers, prices of books will influence the quality of education services, investment in schools and even roads can affect the access of households to education services, etc.). Similarly, changes in household income and employment opportunities will influence the demand by the household for education services. The combined influence of these demand and supply oriented effects will lead to observed outcomes (in terms, for example, of education status of household members). Whilst our illustrations of these linkages have referred to education outcomes, the same reasoning can be applied to other dimensions of household welfare, such as health and nutrition. This is the basic approach to meso-micro analysis taken in the SDA analysis plans. We now turn to consider some of the specific issues that each of these plans addresses.

A. The poverty profile

9.23 Many of the issues that this analysis plan addresses have been discussed earlier. One of the first questions that is addressed concerns the concept of poverty that is to be used. Recent work on poverty (for example, Kanbur, 1987) has tended to adopt relative poverty concepts, partly because this avoids the need to define some absolute poverty line. The analysis plan suggests that in cases where a poverty line is known and is accepted and used by policy makers, this should be applied to measures of poverty. However, should no such threshold be in common use, analyses based on relative poverty should be undertaken.

9.24 A review is made of alternative indicators of household and individual welfare which would form the basis of the poverty analysis. Both economic theory and practical considerations (such as the nature of the data available from the SDA surveys) suggest that total household expenditure per capita (or per adult equivalent) should be taken as the basic welfare indicator in the poverty profile, though the analysis plan does list a number of alternative measures.

9.25 To reflect the incidence and intensity of poverty, as well as the degree of inequality among the poor, the paper recommends the adoption of the $PV_a$ class of indices (which have been viewed above). These indices are sub-group decomposable, which makes them particularly useful in assessing how the structural changes associated with adjustment are likely to affect poverty. Indeed, the plan recommends that overall poverty is decomposed by socio-economic group. If these groups are well chosen, they should reflect the different ways in which adjustment affects various groups in society. By identifying which groups are most prone to poverty, some assessment can be made of how the sectoral shifts arising from adjustment interventions are likely to affect poverty in the country concerned.

9.26 The analysis plan presents a simple tabulation approach (based on Besley and Kanbur, 1988) for evaluating the effects of changes in price policy on poverty. Finally, it suggests an analysis of how the basic needs of poor groups have been affected by adjustment.

B. Employment and earnings

9.27 Increasing employment and earnings is crucial in Sub-Saharan Africa if the depth of poverty in the region is to be reduced. Achieving this objective is daunting given a labor-force growth rate of 2.7 percent per annum, the highest of any developing region. Growth through increasing efficiency in the use of existing resources, and productivity improvements through higher investments are therefore essential if both employment and earnings are to rise together. The SDA analysis plan on this subject reviews a number of different elements and suggested approaches for tracing how employment and earnings change over time as a result of the policy effects of adjustment.

9.28 The analysis plan begins by suggesting some basic data which should be collected and compiled, using previously determined categories of socio-economic groups and available survey data. For employment, basic data would include information on labor force participation, employment characteristics of wage earners, the self-employed, the formal/informal sector, etc., and unemployment and underemployment. For earnings, basic data would include the distribution of earnings, sources of income, the nature of non-farm enterprise incomes, characteristics of households receiving minimum wage income, and indices of real earnings.

9.29 With these base data as a starting point, the analysis plan then traces six ways in which
adjustment programs affect the meso-economy and, in turn, employment and earnings. The six areas are:

- Adjustments in product markets
- Factor market structures and product market adjustment
- Policy interventions in labor markets
- Policy reform in capital markets
- Public expenditure adjustment
- Reforms in taxation and transfers

9.30 The analysis plan concludes with a discussion of the fundamental shifts which are occurring in labor markets in adjusting African countries. Most notably, one of the biggest changes is the reduced role for the public sector in “formal” employment creation. In the early 1980s, public employment (including parastatals) varied from 20 to 80 percent in Sub-Saharan Africa. Under adjustment, the thrust to make the public sector more efficient implies that there will be little or no growth in public sector employment, and that the private sector must invariably take up the slack.

9.31 In these circumstances, the kind of information that policy makers need changes considerably. For example, will financial reform affect the earnings of rural non-farm enterprises? What are the effects of devaluation on urban versus rural incomes? Are the employment prospects of school-leavers affected by minimum wage increases? Perhaps more important is the necessity of understanding how labor markets are not only affected by adjustment but likewise drive the process of adjustment itself. An important policy issue is therefore how current labor markets influence the performance of the macro-economy, and whether policy interventions in sectoral labor markets (intended to assist target groups, for instance) have significant macro-economic consequences.

C. Smallholders

9.32 For most economies of Sub-Saharan Africa, the overwhelming majority of agricultural producers, and indeed the vast majority of the total population, can be classified as smallholder farmers. At the same time, the low or declining levels of agricultural productivity in the region are, to a large extent, a reflection of the constraints imposed by the social and economic environment on smallholder agriculture. Generally, this environment is characterized by limited access to, or total absence of, the resources necessary for raising productivity, and by inadequately developed physical and marketing infrastructure. In addition, smallholders frequently operate at close to the margin of survival and under uncertain climatic and market conditions; hence, their decision making is distinguished by a conservatism indicative of risk aversion, in turn making their ability to respond to new opportunities very circumscribed.

9.33 The SDA analysis plan, prepared by the Africa Division of the International Fund for Agricultural Development (IFAD), begins with an overview of the ways in which macro-policy changes can affect the smallholder sector through such instruments as monetary, fiscal and trade policy, and then looks at the ways in which smallholders can be affected at the meso level in terms of factor and product markets and social and economic infrastructure. It then proposes a preliminary level of analysis using secondary data sources with the goal of observing changes in macro and sector level aggregates attributable to adjustment programs. This preliminary work consists of (i) categorization of agricultural commodities into importables, exportables, and non-tradables, (ii) calculation of “net protection coefficients” for determining implicit commodities taxation and subsidies, and (iii) calculation of real price data series. Although this preliminary analysis of secondary data will not provide direct evidence of the social implications of adjustment on smallholders, it can provide a framework from which informed and preliminary assessments can be made, thus providing a suitable starting point for the analysis of primary data.

9.34 As a first step in primary data analysis, a clear definition of the smallholder population is necessary, which can be based on calculations of the proportion of household to total labor used in production, the size of land holdings, and the degree of market orientation. While country conditions will vary, one could probably expect to find at a minimum four general groups of smallholders:

- Market oriented producers of export commodities;
- Market oriented producers of food commodities;
- Subsistence oriented producers;
- Farmers-agricultural workers.

9.35 Using the selected smallholder groupings, the analysis plan suggests five variables for trac-
ing changes in smallholder welfare at the household level with changes in macro and sectoral changes induced during adjustment. These are:

- **Access to productive assets.** Productive assets, or factors of production, combined with household labor determine the level of goods and services household can consume or trade. Changes in these assets will, directly or indirectly, influence smallholder income and consumption.

- **Rate of farm profit.** Of primary concern are the prices of commodities produced and/or sold by smallholder households, along with price changes involving intermediate inputs, to obtain a measure of farm profitability.

- **Employment terms and opportunities.** The level of (real, not nominal) wages and opportunities for employment may be one of the most crucial variables for determining smallholder household income.

- **Terms of consumption.** The purchasing power of the saleable items produced or owned by the smallholder household — either goods or labor — will be determined by the relative price movements for the goods and services produced or purchased, and thus affect consumption patterns.

- **Access to human resources.** This represents ways in which households gain access to goods and services which raise the level of human capital, such as through health, education, and sanitation. Access is affected by both price and availability.

**D. Education**

9.36 Education can take many forms, including training and learning by doing in addition to formal schooling, which is the usual subject of emphasis. For each form of education there are important demand and supply determinants that interact to determine the extent of education and that may be affected by adjustment policy. Examples of specific policies that are likely to affect the supply side of education include expenditure cuts for public schooling and training and increases in user charges for education. Policies that are likely to affect the demand side include all those which change household incomes and the prices broadly defined that households face. The analysis of the impact of adjustment policy that works through such factors is complicated for a number of reasons. (i) Price effects may work in the opposite direction of income effects (e.g., adjustment policy in the short run may reduce demand for education through reducing incomes but increase it through reducing the opportunity cost of time). (ii) The effects may vary with the time horizon and with the probably changing expectations regarding the probable success of the adjustment policy. (iii) Households may substitute among the activities of the household members in manners that modify the apparent direct effects of policies related to education. (iv) Suppliers of education also may substitute and alter their efficiency. (v) All of these effects occur within a complicated economy-wide framework with feedbacks.

9.37 The major elements of the meso setting — markets and infrastructure — that transmit the impact of adjustment policy to education determinants are then considered. Factor, product and financial markets all may have such effects, in ways that may be partially offsetting. For example, depressed factor and product markets may reduce demand through reduced income, but increase demand through reduced opportunity costs and improved expectations about future economic developments, and increase supply through reduced alternatives for inputs used for education. Infrastructure includes both social infrastructure related to the direct provision of education and other social services and economic infrastructure that also may affect education (e.g., by altering transportation costs and expected returns to investment in education).

9.38 A suggested meso-micro analysis of the impact of adjustment policy on education is then outlined. After outlining some basic hypotheses about the impact of adjustment policy on education, the analysis plan proposes a simple methodology for analyzing the effects of adjustment on the various indicators of education status and performance. The household's role in the determination of education is conceptualized in the form of reduced-form demand relations in which outcomes related to education that are determined by households are related to all predetermined assets of the household and all meso variables — prices and infrastructure — that the household faces in the relevant time period. The basic research strategy is discussed in some detail: (i) Preparation of data that permit the estimation of such household demand relations pertaining to education. (ii) Multivariate estimation of such relations. (iii) Estimation of the changes in the right-side meso price and infrastructure variables due to the adjustment policy for different dura-
tions of time (as is discussed in Section 2). (iv) Estimation of the impact of the meso changes from step 3 on the education-related outcomes by using the differenced version of the relations estimated in step 2. The analysis plan discusses at length competing dependent and independent variables in such multivariate analysis.

9.39 Finally, it considers five probable general policy implications of such analysis. First, education must be placed in a broader perspective with evaluation of the tradeoffs of changing policies directly related to education versus those directly related to other goals, such as health or economic development. Second, it is important to keep in mind in the analysis short, medium, and longer-run time horizon since there may be important differential effects over time. Third, substitution within the household may play a critical role in determining the impact of adjustment policy on education as transmitted through a myriad of meso market and infrastructure variables. Fourth, disaggregation may be very important since small aggregate effects may disguise large effects on particular groups such as females in poor urban households. Fifth, there may be important choices regarding the details of governmental provision of education-related services that can mitigate any negative effects of adjustment policy on education.

E. Food security and nutrition

5.40 This plan has the objective of demonstrating how policy changes introduced during adjustment affect food security at the national, household and individual levels, where food security is defined as the access by all people at all times to enough food for an active, healthy life. Within this broad objective, there are at least four specific uses for policy makers from an analysis of this type. The four are in order of analytical complexity:

(i) the assessment of the impact of past policy changes on food security;

(ii) monitoring of the impact of policy reform on food security;

(iii) the prediction of the impact of policy reform on the food security of the nation and of different household groups; and

(iv) the assessment of the costs and benefits of policies which might be introduced to improve food security, including policies to ameliorate the transitory effects of adjustment on particular socio-economic groups.

9.41 After reviewing the components of food security at the national, household and individual level, the analysis plan explores possible outcomes on food security which could be expected from adjustment policies. At the national level, one might expect to see a change in product mix in accordance with comparative advantage, which could mean a decline in food crop production and, over the long-term, a greater share of food imports in food supply composition. At the food market level, one would expect increased producer and/or consumer prices as subsidies are removed. This would probably be accompanied by a decline in market shares for public marketing institutions and an increase in private marketing. If the new private marketing channels lack capacity, then the transitional effects might lead to increased inter-seasonal and inter-annual price volatility, increased margins between producer and consumer prices, and increased inter-regional price differentials based on transport costs. At the household level, adjustment policies could lead to changes in the household income and changes in the terms of trade for food, thus shifting the balance toward food insecurity for some households.

9.42 With this background, the analysis plan then proposes a number of analytical approaches for determining food security at the national level, at the level of markets and institutions (the meso-level) as they influence the household, and at the intra-household level. The main data source for analysis at the household level would come from the SDA survey activities or other existing household surveys. The main concern is to identify how changes in household incomes, the relative prices of basic food and other commodities, and key household and community characteristics interact to influence the level and variability of food consumption. "Outcome" measures at the household and individual levels are reviewed, and the main explanatory factors are discussed. Obviously, the main sources of individual-level data in the SDA household survey design are the anthropometric data, which can be used to measure wasting and stunting. Specifications of reduced form equations are suggested in the plan.

F. Women in development

9.43 There are two broad issues that need to be addressed under this general title. First, there are
questions concerning how gender-related constraints serve to frustrate the objectives of an adjustment program, simply because they adversely affect labor mobility and structural flexibility. If women traditionally cannot engage in tradable activities, an expansion of tradable output will be far more constrained than it would be if such gender constraints did not apply. Second, does adjustment enhance or undermine the role, status and welfare of women? Do the changes induced by adjustment, especially the changes in the structure of incentives, lead to a breaking down of gender-related constants?

9.44 At the micro-level, economic decision making is gender-specific because of four gender-differentiated processes. First, women may encounter discrimination outside the household. While in developed countries discrimination often takes the form of lower wage rates, in Africa it seems that in the labor market it more commonly takes the form of differential access to wage employment. Perhaps of more importance is differential access to credit, because women generally do not own marketable land rights and, as subordinates in the household, cannot establish independent reputations for credit-worthiness. Second, imitation, or copying, is an important way in which new economic ideas are disseminated. There is some tendency for men and women to have different role models, men copying their other men and women copying other women. An implication is that, if some new economic opportunity is initially taken up by men, it may automatically be diffused over the male population but have a slower diffusion among females. Third, within the household there are asymmetric rights and obligations. Women are obliged to grow food for subsistence, to gather fuel and water, to cook and to rear children. In return, men meet certain cash needs. This pattern of reciprocal obligations is often unequal, women working considerably longer hours than men. This gives rise to a classic principal-agent problem: the woman has little incentive to work well. Finally, women bear the burden of reproduction. Because there is a phase during mid-life in which women's time if pre-committed, certain activities are precluded. The physical demands of child bearing and rearing strain health; studies show that female health relative to male health deteriorates in this period.

9.45 These processes jointly give rise to gender-differentiated economic outcomes. This is manifested by two symptoms. First, resources controlled by women (of which labor is the most important) tend to be allocated between economic activities in a radically different manner from male-controlled resources. Women's labor tends to be concentrated in activities whose output is internationally non-tradable and which provide relatively low incomes. This suggests that women may be more constrained than men in gaining access to higher return activities. Second, differential constraints upon access can be observed by analyzing the process of the transition of resources between sectors. Structural adjustment is centrally about the reallocation of resources between activities. If, as seems to be the case, women are less able to transfer their resources to those activities which should expand during adjustment, then this is likely to constitute a significant policy problem. The paper suggests lines of data analysis (such as Logit or Tobit) which are appropriate for multivariate analyses where the dependent variable is discrete.

9.46 The major gender-related task in the analysis of survey data is to identify the extent to which policy changes can assist women in overcoming differential constraints. Typically, access to credit markets, education, agricultural information, and land are biased against women. There is therefore a case for an offsetting bias in the competing provision of public services. Yet, currently it is common for some public services to be biased in the same direction as private provision. The paper suggests how survey data can be used to identify the gender-specific effects of some important public policies.
Appendix

The social accounting matrix

A.1 A SAM is a square matrix, or table, representing the transactions taking place in an economy during a certain period of time (Pyatt and Round, 1977). Each account of the system is represented by a row and a column of the matrix, which is why it is square, with the convention that outlays are shown down the columns and receipts along the rows. The essence of the matrix accounting approach is that each transaction is represented by a single entry. Thus if a producer pays wages to a household, then the payment is shown at the intersection of the producer's outlay account (column) and the household's income account (row). This is in contrast to the more conventional "T" account system where this payment would be recorded in two places, once in the producer's outlay account and once in the household's income accounts, hence the "double-entry" nature of that system. A further property of a SAM is that, because the accounts have to balance, row sums must equal column sums, providing of course that the rows and columns follow the same ordering. These are simple yet basic properties and are fundamental to all SAMs. If a matrix does not obey these properties, then it is not a SAM which is why not all input-output tables are SAMs. They represent only the production part of the whole structure of transactions of the economic system.

A.2 In principle, a SAM can be any dimension although the minimum possible order would be four so that accounts can be specified for each of the three basic forms of economic activity (production, consumption and accumulation) plus an account for transactions with the rest of the world. Figure A.1 is a schematic version of a very basic SAM and has only five accounts. However, it does serve to illustrate the principal features of the matrix accounting approach and also helps to tie in with our earlier discussion of the main economic aggregates. The more interesting and important features of SAMs are discussed subsequently when these five accounts are further disaggregated to show more of the interdependence between households and the rest of the economic system. For the present it can simply be noted how the five accounts are structured to show the main elements of the circular flow of income between institutions, production activities and the rest of the world. Institutions are, of course, the principal transactors of the system. They are the economic units which are capable of owning assets (real assets or financial claims) and incurring liabilities on their own behalf. The individual institutional units can be grouped to form broad institutional sectors, such as households, corporate enterprises and government. In Table A.1 we simply show one overall account for the combined institutions but we distinguish between their current account (their incomes and expenditures) and their capital account.

A.3 There are two accounts shown for production. One is an account for "products" which records the receipts from the sale of products and the subsequent outlays of value added to factor income recipients, while the second is a separate...
account for "factors of production" which serves to receive the factor income generated either domestically or from abroad before paying this to institutions. Thus the combination of the five accounts shows the real essence of the circular flow of income. In particular the five show the interaction between production and institutions, and between the domestic economy and the rest of the world. They also show something of the interrelationships between the two key markets of the system which are important for empirical analysis, i.e. for commodities and for the factors of production.

A.4 Let us briefly examine how the transactions can be read from the matrix and start with the generation of income from domestic production. The outlay account for products shown as column 4 pays out the aggregate domestic product to the factors account in row 3. The domestic product therefore appears in the matrix as cell (3,4). This is augmented by net factor income from abroad, cell (3,5), to form gross national product and this is recorded as the row total for the factors account. Gross national product is then distributed to form the primary income of institutions, cell (1,3), although if incomes are simply added across institutions, then there would be double counting because the total would exceed GNP by an amount equal to the aggregate current transfers between institutions. In a con-
solidated account for institutions as a whole, current transfers simply net out from both their incomes and their expenditures, but they are included here and appear as a diagonal entry in cell (1,1) of Figure A.1 to help facilitate subsequent discussion. In a similar fashion, the institutions capital accounts and the products accounts also contain diagonal entries. Capital transfers of both real and financial assets take place between institutions and could be added to both gross savings and gross investment without disturbing the overall balance. Similarly, in total, the sales and purchases of products for intermediate use net out from both sides of the product balance. If we did this it would give us the basic expression shown as equation (1) in Chapter 7, but it could just as easily be left as a diagonal element. Again this is useful to do because in a more disaggregated framework these transactions enter the accounts in the form of the intermediate transactions of an input-output table. In all other respects, the cell entries are fairly self-explanatory. One can note a direct comparison between aggregates in the cells in Table A.1 and those which appear in Chapter 7.

A.5 The basic structure of the SAM shown in Figure A.1 can be disaggregated in a variety of ways depending upon the particular analytical and policy focus. The most interesting disaggregation of all, from the SDA perspective, is to explicitly identify households within the broad group of institutions and to consider further disaggregation of that account across different household groups. In an ideal world where information is readily available we could perform parallel sets of disaggregation across both the current and capital accounts of households (as well as those of other institutions), but on practical grounds it is usually preferable to limit disaggregation to the current accounts and to leave the capital accounts as a single consolidated account. This is a point which will be taken up in later discussion in connection with incorporating the flow of funds. For the present, if we view the first account in Table A.1 as a set of household accounts then what we have is a schematic description of the sources of household incomes and the destination of their outlays. It is this potentially quite detailed display of incomes and outlays within a framework of general interdependence which makes the SAM formats so attractive as a data framework for SDA analysis.

A.6 There are two key parts of the basic schematic SAM which need to be discussed further. The first is to say more about the nature of transfers occurring in cell (1,1) while the other concerns the interactions between the household and factor accounts in cell (1,3). The remaining cells in the structure of the household accounts are fairly self-evident. For example, household expenditures are represented by cell (4,1) so that in a very obvious sense and with appropriate disaggregation, this cell would actually be a submatrix mapping expenditures from different types of households across different categories of products. Similarly, household savings are shown in cell (2,1).

A.7 Cell (1,1) of the SAM, representing current account transfers, assumes a special significance when institutions (and in particular, households) are disaggregated. The kinds of income-transfers that are captured are best illustrated by expanding cell (1,1) into a 3 by 3 submatrix to distinguish accounts for the household, corporate sector and government sectors. This submatrix is set out in Figure A.2. For the household account the cells show that, in addition to factor income, households may receive transfer income in the form of distributed profits from the corporate sector, certain cash benefits from government (say in the form of social security payments, together with possible transfer income from other households which arise through various family support systems (Kusnic and Da Vanzo, 1980). Clearly the pattern of income sources will vary considerably across households, which will be central information for any empirical analysis of the social dimensions of adjustment. Although the patterns clearly begin to emerge even with a fairly aggregative SAM structure, an even finer disaggregation of the accounts would provide more information on the nature of the interdependencies (or the lack of them), and how different types of households depend to a greater or lesser degree on a variety of sources of income.

A.8 The second component requiring special mention is the submatrix represented by cell (1,3). This records the incomes received by households and other institutions in return for the services they provide in the factor markets. For households this will consist of labor income, income from unincorporated enterprises and rent from dwellings. But each household may include more than one individual who is an income earner. Moreover, these individuals may belong to quite separate labor markets so that the composition of
### Figure A.2 Institution current transfers submatrix of the SAM

<table>
<thead>
<tr>
<th>Institution outlays</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Households</td>
</tr>
<tr>
<td>Households</td>
<td>Interhousehold transfers</td>
</tr>
<tr>
<td>Corporate</td>
<td>0</td>
</tr>
<tr>
<td>Government</td>
<td>Direct taxes, social security, contributions</td>
</tr>
<tr>
<td>Total</td>
<td>Household domestic outlays</td>
</tr>
</tbody>
</table>

Household factor income could depend quite critically on any change in circumstances in the various labor markets. Technically, the same would be true of those individuals who have more than one job which is a phenomenon that becomes increasingly prevalent when expenditure cuts in the public sector lead to retrenchment and cuts in wage rates of government employees, at least in real terms. It is clear, therefore, that if the classifications are carefully chosen and adequately reflect the main types of factor markets then this submatrix could represent a rich source of information about the household composition of income (Grootaert, 1982b).

A.9 This brief synopsis of the SAM as a basic framework for macro-economic data is no more than a sketch of its main features. As already emphasized the SAM really becomes a useful data construct when the very broad accounts illustrated in Figures A.1 and A.2 are disaggregated further. In this discussion we have emphasized the institutions, households and factors accounts, and have alluded to their disaggregation because of their significance to the issues underlying social-dimensions concerns. At the same time it is clear that other parts of the matrix could also be disaggregated in a number of ways, at least in principle if not always in practice. For instance, a judicious choice of products accounts would reveal something of the full and detailed circular flow that connects the distribution of income to the structure of production. Furthermore, it is now fairly standard practice to distinguish in the products accounts between commodities and the activities which produce them. This distinction is made for a number of good conceptual and practical reasons, not least because it means activities can be identified according to criteria other than the kind of commodity they produce (e.g., level of technology, ownership, etc.) and it also helps in handling the treatment of secondary products and the valuation of commodity transactions. Similarly, while the above discussion has primarily focused on disaggregations of the current institution, product and factor accounts, it is important to note that the capital accounts can also be disaggregated further. Thus, they might show the generation of savings by institution, cell (2,1); investment by product, cell (4,2); and capital transfers between institutions, cell (2,2), in a way that is analogous to current transfers in cell (1,1). But it is sometimes useful to distinguish between types of capital finance, in which case cell (2,2) would record...
the flow of funds between domestic institutions (Greenfield, 1985).

A.10 It should not be inferred from all of this that a fixed SAM design should be developed for every country or even that there should be a single framework to be used for all purposes in any one country. As a data construct it is clear that a wide variety of different SAMs could be assembled depending, for instance, on the degree and extent of imputations one might choose to carry out, or the purposes to which the SAM might be put. Thus, for example, in some instances we might require quite detailed financial flows while in others a consolidated capital account might be sufficient. It is this inherent flexibility in the structure of a SAM that seems to offer most scope in its role as an organising framework and data construct at the macro, meso, and micro levels.

Advantages and limitations of SAMs

A.11 There is now considerable practical experience gained in constructing SAMs across a wide variety of country situations. Based on this we can identify three quite distinct advantages of pursuing a SAM approach and really very few disadvantages or limitations, compared with alternative systems. It must be emphasized that a SAM is simply a way of representing macro-economic flows and, therefore, will not provide all the macro level information we might require for analysis as part of a single, unified framework. For example, information on stocks and assets would have to be compiled and shown separately, and the same would be true of all the relevant social and demographic data.

A.12 Consider first the advantages of the SAM approach:

(i) Description Matrix accounts are generally considered to be a very good schematic way of visualizing the transactions and transfers taking place in an economy. The essential key to this is that the accounts are "articulated", by which it is meant that both the origin and destination of transactions are identifiable.

(ii) Data assembly The accounting constraints inherent in a SAM provide an excellent basis for identifying inconsistencies between data derived from different and, sometimes, quite disparate data sources. More controversially perhaps, it can sometimes help in resolving some of these inconsistencies. But even if there is a genuine conflict between estimates from two key sources then the (statistical) ramifications of adopting one rather than the other can be explored by constructing alternative SAMs.

(iii) Modelling A SAM is a data framework and not a model of the economy. Indeed any particular SAM could be consistent with a wide range of models, depending upon the behavioral relationships posited. But it has been demonstrated quite convincingly (de Melo, 1988; Pyatt, 1989) that SAMs are a useful way to formulate as well as to calibrate economy-wide models. However, it must be said that the matrix representation of accounts is not of itself a sufficient condition for it to be useful and informative about structure.

A.13 The main limitation of a SAM is clearly its potentially voracious appetite for data, although as we have seen, SAMs can be quite compact data constructs. The main problem is being able to obtain, from available data sources, enough information to articulate the flows and therefore to show both origins and destinations of each set of transactions in accounting terms. Hence, for example, if we want to examine the composition of household income and trace this back through its sources to production structure and commodity demand, then we need quite specific information about the various components of factorial and transfer income. This is not very easily obtained. It should be noted, however, that the same kind of problem was faced in the early days of compiling input-output tables and, as a result, a methodology has now been established in carrying out surveys of production establishments to cater for this. In the limit, if data do not exist then it may not be possible to construct a SAM of any substance. But equally, the lack of data would also severely limit the kinds of analysis one could perform on any issues which require knowledge about the circular flow of income. As such, explanations of social-dimensions issues would be among the first to suffer.

Data requirements

A.14 As already noted, one of the principal features of a SAM is its role as an organizing framework for both data and models. It can help us to identify both gaps and weaknesses in the available data sources. In many instances these will already be apparent but so much depends on the degree of detail required and the general taxonomy that has been chosen before the full extent of
data requirements and availability can be properly assessed.

A.15 In addressing the effects of macro-economic policies on the well-being of different socio-economic groups, it is clear from our discussion so far that considerable information is required to estimate the flows between the households, factors and products accounts in particular. It is also clear that a well-conducted and comprehensive household survey is crucial in this regard. Given that the main thrust of data collection under SDA auspices is toward households, it follows that the SAM is a convenient way of integrating these data within a consistent macro-economic framework. Furthermore, it demonstrates how, in a hierarchical data system, we observe data at the micro-level being fed into the system to generate the macro-level data constructs, and which brings out so clearly the importance of the meso-level at the interface between the two.

A.16 A second principal requirement is for some reasonably detailed information in order to fill out the products accounts. As indicated in our earlier review of data already available and the particular difficulties most African countries face, both conceptually and practically, the immediate problems are non-trivial. The data sources will be wide-ranging but will constitute production surveys of one form or another. It should be emphasized again, however, that it may be quite unnecessary to compile a highly disaggregated set of products accounts. Still, it is useful to distinguish commodities from activities because it then allows a distinction between modern and traditional technologies in production and between those sectors which are predominantly under public rather than private ownership.

A.17 Beyond these obvious but fairly crucial data requirements the compilation of SAMs can proceed on the basis of the same range of data sources usually required for standard national accounting purposes. Keuning and de Ruijter (1988) provide a useful and fairly detailed set of guidelines for the construction of a SAM. These were briefly reviewed earlier and would broadly conform to the requirements for any macro-economic analysis. As so often happens, apart from identifying complete gaps in data availability, one also finds potentially useful data sets which cover only part of the desired universe or which relate to a different year from the one being considered. There is no easy solution to how these data sets should be incorporated, but it usually means that compromises, adjustments and assumptions have to be made and then documented in case they affect subsequent analysis. In the limit it is sometimes suggested that the stylized facts about an economy (or, more fundamentally, "informed guesses") may have to be resorted to in some instances, especially in the short term and before a program of data collection can get underway. If this is so, then assembling such data in the form of a SAM can help narrow down the range of choice and eliminate possible inconsistencies along the way.
Part III

Policy framework
Introduction

1. Adjustment raises new possibilities, but also new problems, in securing an improvement in the living standards of the poor in Africa. For poverty to be reduced, the circumstances of the poor and their interactions with the wider social and economic system must be fully understood. Part I has shown that the determinants of welfare in Africa are complex and varied. If policy-makers do not have sufficient information or analysis to understand the processes through which target groups are affected by different types of policy intervention, it will be extremely difficult for them to take effective action. For this reason, the application at the country level of the principles presented here should be seen as part of a wider exercise that aims to develop national capabilities for information collection and policy analysis on the social dimensions of adjustment.

2. The policy framework offered here will itself evolve as more is learned from country experiences under the SDA program about the design and implementation of poverty-sensitive adjustment. And since it is only a framework, much of the priority setting can only be done at the country level. Nevertheless, this part aims to explore the “policy-space” of opportunities and constraints within which governments and donors operate. This is done through outlining the major issues surrounding poverty-sensitive macro-economic and sectoral policy, and identifying what room for maneuver there exists in redesigning adjustment measures to enhance their sensitivity to the social dimension.

3. Part III is divided into three chapters. The following chapter reviews the strategic issues at hand. The scope for designing poverty-sensitive adjustment programs is the subject of an in-depth review in Chapter 11. The broad policy areas and instruments reviewed include public finance reform, monetary and financial policy, exchange rate and trade policy, and policies towards self-employment and wage employment. The country policy and institution-building agenda of the SDA initiative is set out in Chapter 12. It consists of activities in the field of macro and sectoral policy management, design and implementation of social action programs, strengthening national information systems, and institution-building and training to support the above. A brief concluding perspective is given at the close.
Strategic issues

Social interventions and economic distortions

The key policy problem

10.1 The key problem currently confronting African governments is how to assist poor and vulnerable groups without at the same time distorting economic mechanisms. If those distortions are severe, then not only will economic recovery and growth be undermined, but also — ultimately — the attainment of social objectives as well. In the final analysis, the reduction of poverty cannot be secured by trading off the restoration of economic stability. But, at the same time, prosperity will never be secured if Africa’s most important resource — its human capital — is not developed. Allowing such capital to depreciate is not only undesirable in itself, it also makes little economic sense. Malnutrition and sickness reduce productivity, low productivity limits earnings, and poor earnings limit investment and economic diversification. Nowhere is this more apparent than in the loss of national income that is due to the physical stunting of African children — and their loss of schooling — over the last decade (UNICEF, 1985a, 1985b and 1989). The goal is therefore adjustment with poverty reduction, not adjustment or poverty reduction.

10.2 The objectives of adjustment have widened during the 1980s. In addition to the restoration of macro-balance, programs have sought to improve efficiency and increase economic growth.1 To these macro/meso objectives, poverty reduction (and environmental protection) must be added. In part, this broadening of objectives reflects the persistence of the adjustment process over a longer period than was initially anticipated (World Bank, 1988c: 1). In the early 1980s many observers considered the macro-balance objective as sufficient, implying that some loss of growth would need to be accepted, but only for a short time. However, continued turbulence in the world economy, including further terms of trade deteriorations, has delayed the attainment of adjustment goals. And the political difficulties of policy reforms have made some governments waver in implementing their adjustment programs. Adjustment has therefore evolved into a much more complicated process. It now entails longer-term financing facilities, an intensive sectoral focus, and therefore a wider range of policy options.

10.3 A second reason for the broadening of the objectives of adjustment is the now common view among governments and donors alike that adjustment cannot ignore the needs of the poor. Although it provides many benefits to the poor, some of its adverse effects are by now well known. Opportunities were missed in the early days of policy reforms to protect the poor from their adverse effects, and to encourage their longer-term participation in the recovery process. With adjustment programs taking a longer-term focus, there is now more scope to take up these opportunities.
Gainers, losers and social welfare

10.4 Implementing major policy adjustments inevitably involves making painful choices. Most changes involve both gainers and losers. The policy problem is how to decide whether a change is for the better or worse if only some groups gain as a result, while others lose. Orthodox welfare economics is based on the view that a change is desirable if it improves the welfare of some, without reducing that of others. This is illustrated in Figure 10.1. The welfare levels (measured conceptually as utility, but approximated by, say, expenditure) of two groups (called gainers and losers) are measured on the two axes. Assume that the maximum levels of welfare (or expenditure) that the economy can sustain is given by the curve GL. If the economy is initially at X, it is clear that a policy which takes it to Y will be unambiguously beneficial, since it improves the well-being of the gainers without harming the welfare of other groups. However, most policy interventions are not of this type, and this applies particularly to policy changes being implemented under structural adjustment. The pre-adjustment situation may be at a point such as X, which is sub-optimal (since one individual can gain without others losing). But past experience suggests that adjustment is likely to take the economy to a position such as Z, which, although being on the efficiency frontier, cannot be said to be necessarily preferred to X (since some groups are worse off as a result of the policy change).

10.5 One solution to this problem is the Kaldor-Hicks compensation test, according to which a change is recommended if the gainers can in principle compensate the losers and still remain better off compared to the situation prior to the policy change. In terms of Figure 10.1, this means that having attained a position such as Z, it would be theoretically possible through lump-sum transfers to attain Y. This criterion, however, requires only that the compensation should be possible in principle, not that it be paid in actual fact. If the losers from a particular set of policies are already poor, it can hardly be maintained that a movement to Z is preferred to X, and that social welfare at Z is higher than X, simply because it is possible in principle to compensate the losers. This is especially true if the decline in welfare of the losers is associated with a serious deterioration in their human condition. This would be inconsistent with any notion of human dignity

(Nath, 1988). This possibility is a very real one for African countries, where many groups exist at or near subsistence. In the context of structural adjustment programs aimed at poverty reduction, therefore, the application of the Kaldor-Hicks criterion would require at the very least that compensation is paid if the losers from the policy are poor.

Figure 10.1

10.6 However, many decisions to provide assistance under adjustment rest on more broad-based criteria than those of welfare economics. If the losers are already destitute, so that the prospect of their survival to gain the long-run benefits promised by adjustment is in doubt, assistance can be justified on the grounds of need. Using this criterion, there is much less of a case for assisting the losers if they come from the better-off sections of the community (unless they lose so heavily that they become poor). Likewise, if the better-off group owes its relative comfort to the previous policy distortions, there are no grounds for providing them with assistance. Nevertheless, governments often feel compelled to help non-poor losers because of the political power of the latter (which could undermine the whole adjustment effort). Hence, assistance is provided on the grounds of political expediency.

10.7 Once the decision has been made to assist a particular group, the issue of the type of assistance to be given becomes crucial, together with the effect of this on the efficiency of the economy and on its growth path. It is this process of how to take the economy from the post-adjustment
position attained at Z in Figure 10.1 to Y that is the principal concern of the SDA policy analysis. One of the issues that will be raised in the SDA program in considering the alternatives which governments face, is encountered when it is simply impossible to take the economy to Y, because having attained Z, the only methods of compensation involve some distortions in product or factor markets. This means that the move may have to be from Z to a position such as T, which is sub-optimal. One of the most important challenges facing the SDA initiative, therefore, is to assess how far African governments can effect the welfare improvements that are considered socially desirable, without introducing serious distortions.

10.8 Some critical problems are raised when compensation is carried out in practice. First, the direct and indirect losses brought about by a policy change are many, and it is costly even to identify them precisely (Rottenberg, 1986). Improving the data base will help, especially at the micro-level. Secondly, full compensation can undermine the changes in the incentive structure that adjustment must signal in improving economic efficiency and raising growth rates (World Bank, 1987b: 111). Returns to non-tradables must fall relative to tradables, but if non-tradables producers are fully compensated for their losses, the resource transfers that adjustment requires will not occur. For this reason, targeted transfers must be carefully packaged with measures which encourage and enhance economic activities that are consistent with the adjustment effort.

10.9 The emphasis on sustainable growth in structural adjustment programs changes the complexion of this policy dilemma. The problem is no longer how to take the economy from Z to Y, but rather how to expand the utility frontier (GL), so that the welfare of both groups can be raised without lowering that of others. If a position such as V can be achieved with growth, both groups will gain. Our review of policies (in Chapter 11) suggests that there is scope for achieving not just protection of the poor under adjustment, but a significant improvement in their situation by encouraging their participation in growth. Hence, the objective of the SDA program is not just to alleviate poverty, but to reduce it by contributing to the process by which the livelihoods of the poor can expand through their becoming more important participants in economic growth that structural adjustment can generate.

Implications of the conceptual framework

10.10 Our main concern in this part is to assess the room for maneuver in designing adjustment policies to take on board social dimensions. In doing this, each adjustment policy instrument is considered in turn. But before we embark on this review, two preliminaries are in order. First, it is important to treat the policy framework as a logical extension of the conceptual framework reviewed in Part 1, and so we must establish the main implications of the conceptual framework for the policy approach outlined here. Secondly, the characteristics of the target groups must be clarified.

10.11 The most important feature of the conceptual framework is its distinction between the three levels of economic activity — the macro-, meso- and micro-economies. Just as this was regarded as an essential distinction in understanding how any given set of adjustment policies might affect household welfare, so it is equally relevant — if not more so — in considering how policy interventions can be designed to enhance favorable welfare effects. In making an assessment of how a particular adjustment policy instrument affects households, and how policies might be targeted more effectively, the level at which an intervention is to take place has to be clarified.

10.12 For example, consider the effects of a devaluation on a particular poverty group. According to the orthodox theory outlined in the conceptual framework, this will favor producers of tradables and consumers of non-tradables. Suppose for some reason that the devaluation has made a particular group worse off. What should be done about it? Does this mean that the devaluation should be moderated, or should disadvantaged households be compensated in some way? The answer to these questions depend on the reasons why the group is made worse off. If the households are net producers of tradables, they may not have benefited from the devaluation if the product prices they receive did not rise in line with the devaluation. It may be, for instance, that product markets are essentially monopsonistic, so that the devaluation only raised the trading margins of middle-men, and not the producer prices received by the target households concerned. In this case, policy interventions are required at the meso level — improving the functioning of the product markets. Alternatively, the households may not be able to re-
respond to the more favorable market opportunities because of a deterioration in the physical infrastructure, which isolates them from the main market centers. Again, policy interventions at the meso-level are called for, aiming to improve roads and communications. If markets and infrastructure are functioning well, and the households produce non-tradables, the focus for policy intervention must be at the micro-level, encouraging a change in the production patterns of the households concerned in order to gain the advantages offered by the shift in market incentives.

10.13 The most important principle for policy design emerging from the conceptual framework, therefore, is the critical importance of understanding the process through which the effects of adjustment are transmitted to households. On the basis of this understanding, policy interventions can then be applied at the appropriate level — macro, meso or micro. Most corrective interventions are likely at the meso-level, involving changes in markets, marketing institutions, economic infrastructure and social infrastructure. The conceptual framework cautions against a neglect of infrastructural effects, which can easily occur in programs which emphasize reforms in the structure of incentives.

10.14 The conceptual framework also underscores the importance of a sound micro-economic data base for policy design. How households are affected by adjustment policies (and their related meso-economic changes) will critically depend on their production and consumption patterns. At the very least, therefore, policy-makers should gain some understanding of the sources of income of the target households, and their broad consumption patterns. It is also important to know how households will respond to policy changes, since this will determine the longer-run effects of policies. The conceptual framework highlights the distinction between the different time horizons in judging how adjustment affects households. It is perfectly possible that households may lose in the short run, but gain significantly over the longer term. This has obvious implications for policy design. However, longer-run effects are often difficult to predict, in part because they themselves depend on household behavior and responses. Similarly, the phasing of policy changes can influence the net effect on households. In the above example, the improvement in the operation of domestic product mar-
kets (or in the physical infrastructure) should ideally precede a major devaluation. This will both raise the incomes of some (target) groups of producers, and enhance the output-switching effects of the policy.

10.15 Finally, the conceptual framework emphasizes the advantages of defining policy-relevant socio-economic groups. Because the effects of adjustment on households depend critically on their socio-economic profiles, there are advantages for policy analysis in defining groups of households which share certain key characteristics, and which are therefore affected similarly by adjustment policies. The use of socio-economic groups also enhances the analysis from a policy perspective: the socio-economic criteria used in aggregating households makes them readily identifiable for policy purposes. For example, it is much easier to define a set of policies to assist maize-growing smallholders in a particular region, than households in a particular percentile of the income distribution. Clearly, policy makers will need to take the concept of socio-economic group further, by defining target groups. And it is to this that we now turn.

Poverty and vulnerability

10.16 African governments are faced by a wide range of competing social needs, and setting social priorities is an inescapable part of the policy process. But because adjustment entails fundamental changes in policy, its effects are spread widely through society. It therefore presents new problems (and new opportunities) to governments in matching scarce resources to social needs. If the objective is to address the social dimensions of structural adjustment, which groups in society should have priority?

10.17 In deciding upon the broad domains of policy concern for the SDA program, two criteria should be uppermost: poverty and vulnerability. A household is poor if its income (or total expenditure) falls short of the standard that society sets such as a poverty line, sometimes defined as the bottom 30 percent of a country’s population ranked by per capita household income (Kanbur, 1987b). On the other hand, a household is vulnerable if it is particularly open to adverse external events or shocks, and cannot make the necessary adjustments to protect its standard of living. While it is true that ultra poor households are certain to be vulnerable because of their poverty,
these are two quite distinct dimensions of need. Some households may be poor and not vulnerable, either because they are not affected by external events (as for example, in the case of subsistence farmers), or because they can readily cope with the changes (for example, production and consumption switching in the light of relative price movements). Others may be vulnerable but not poor, a case illustrated by retrenched public-sector workers.

10.18 Taking these two key criteria, the focus of policy concern for the SDA comprises three categories:

- the chronic poor whose malnutrition, illness and illiteracy limit their productivity and employment, and prevent them from accumulating sufficient resources to free themselves from poverty. Their poverty is deep-rooted and existed before the recent deterioration in national economies. Among these may be listed the ultra poor or the destitute. They are generally at risk from drought. Moreover, the economic shocks of the 1980s, and the resulting policy reforms, have further increased the poverty of some of them. But, others have been relatively unaffected, while still others may have benefited from adjustment measures.

- the new poor who were above the poverty line prior to the recent shocks and adjustment measures, but who have now fallen into poverty as a result; some of these may only experience transitory poverty, while others may experience deprivation over a longer period, becoming chronically poor.

- other vulnerable groups who remain above the poverty line but who have been severely affected by adjustment and therefore merit policy consideration.

10.19 While some of the chronic poor have not been vulnerable to recent policy reforms, they should still be our concern. These people have been largely bypassed by policies in the past, and are relatively unaffected by recent policy changes. So while they have been unaffected by some adverse consequences of policy, they have missed out on opportunities as well. The process of policy revision now underway provides an opportunity to address their problems anew and to bring them into the process of adjustment-led growth. At the same time, it is important to point out that assistance might also be given to non-poor groups because of their particular vulnerability to recession and policy adjustment.

Defining target groups for policy purposes

10.20 The chronic poor, the new poor, and other vulnerable groups provide the domain for concern about the social dimensions of adjustment. But for operational purposes, we need a more precise definition of the groups to be helped. To do this we must first recognize that people differ widely in their socio-economic circumstances. Policies therefore affect them in different ways. From a policy perspective, socio-economic criteria provide a useful taxonomy for dividing the population into groups of people with common characteristics. As we showed in Part II, such socio-economic groups can be used to guide data collection, collation and analysis, and to provide the basis for focussing on target groups for policy intervention. The relation between socio-economic groups and target groups will be country specific, but:

- an entire socio-economic group may constitute a target group because, for example, it comprises both the chronic and new poor, or a particularly vulnerable group;

- target groups may comprise a sub-set of a socio-economic group. For instance millet- and maize-producing farmers may constitute target groups for the purposes of policy reforms in agriculture, and each is drawn from the socio-economic group, smallholder farmers; within the socio-economic group of urban formal-sector workers, only some public and private employees may be targeted by virtue of their vulnerability;

- a target group may cut across several socio-economic groups, as for example with rural female-headed households.

In summary, the entire population is divided into socio-economic groups, but only some of the population will belong to target groups.

10.21 Throughout the discussion of policies in Chapter 11 below, various target groups become evident as we assess how the design of adjustment policies can better incorporate the social dimension. Such target groups include smallholders producing mainly food crops, subsistence farmers in remote areas, rural wage-workers, urban informal wage-workers, micro-household enterprises in both urban and rural areas, and low-wage workers displaced from both modern industry and the public service. And target groups which cut across those categories by gender, age, and disablement are also featured.
10.22 Nevertheless, the selection of target groups, and their precise definition, must take place at the country level. They emerge through the detailed assessment of country situations, the establishment of government priorities, and from dialogue between governments and donors. Moreover, this process is a dynamic one for two reasons. First, as adjustment proceeds through its various phases, new target groups inevitably emerge. This is because many policy reforms either take time to make their effects felt or are implemented in the later stages of adjustment. For instance, many liberalization measures only exert their influence over the medium term. Second, the priority given to target groups changes as the poverty-focused measures implemented in adjustment’s early years bear fruit. The problems of some target groups are more readily resolved than those of the chronic poor. Having identified the process through which target groups are selected we now take up the key issues of how help can be given.
Designing poverty-sensitive adjustment programs

11.1 In considering how social-dimensions should influence the various adjustment policy instruments, we continue to follow the basic logic of the conceptual framework. We begin with interventions which have an essential macro profile — the overall fiscal and monetary balance. As we proceed through the instruments, the roles of meso-level interventions (influencing product, credit and labor markets as well as infrastructure), and micro-level support (such as the provision of transfers or training) increases.

Overall fiscal and monetary balance

Fiscal discipline and the macro-balances

11.2 Macro-economic policy under adjustment seeks to achieve a sustainable external balance and an acceptable rate of price inflation. To achieve these macro-balances, a government has a number of policy instruments at its disposal, notably monetary instruments such as credit controls or the central bank lending rate, fiscal instruments (government revenues and expenditures), and trade instruments, such as the nominal rate of exchange. In manipulating these instruments to achieve internal and external balance, policy-makers face some basic accounting constraints. All successful adjustment programs — including those which give priority to the social dimensions — must respect these basic macro-accounts.5

11.3 To explore the implications of this further, consider again the resource constraint facing the economy in the savings identity discussed in Part II. Ignoring net factor income and transfers from abroad, and rearranging equation 3 from the empirical framework, gives

\[ (C_g + I_g - T) = (S_p - I_p) + (M - X) \]  

where \( S, I \) and \( C \) refer respectively to savings, investment and consumption, \( T \) is government tax revenue, \( X \) and \( M \) are exports and imports, and the subscripts \( p \) and \( g \) refer to private and government sectors. Since (1) is an identity, any manipulation of the fiscal deficit (the term on the left hand side) will either change the private sector deficit or the external balance. As an identity, however, equation 1 also hides some of the complexity behind the accounts. It is not clear, for example, whether a decrease in the fiscal deficit will cause a compensating change in the private sector (through, for example, a rise in private investment which 'crowds out' the cut in the deficit) leaving aggregate demand and the external balance unaffected, or whether the fiscal adjustment will result in a reduction in the current account external deficit. This will depend on two main factors: first, the accompanying changes in the other macro-policy instruments — monetary and exchange rate policies; and second, on the expectations of the private sector.

11.4 If the fiscal deficit reduction is accompanied by a restrictive monetary policy, which raises interest rates, and by an exchange rate depreci-
tion, it is likely to lead to a reduction in the trade deficit (as described in Part I). On the other hand, an expansionary monetary policy would lead to reduced interest rates, and an increase in investment, with possibly little change in the external balance. Expectations will also play a key role in governing how the private sector reacts to any fiscal adjustment. For example, if a tax change is expected to be temporary, the private sector will not adjust its expenditures. But a change that is considered permanent is more likely to lead to private-sector reactions. In the context of structural adjustments in Sub-Saharan Africa, the required changes in fiscal deficits are more likely to be regarded as permanent, given the nature of the underlying policy objectives and the reduction in real incomes brought about by the terms of trade decline (which is now perceived as being permanent).

A critical issue for all governments implementing adjustment programs (and especially for those concerned with its social dimensions) is how much room for maneuver they have in maintaining fiscal deficits, within the resource constraints that they face. This very much depends on how governments are able to finance their deficits. There are three principal means at their disposal: raising funds through printing money (i.e., through "seignorage" — a government's right to print money); borrowing from abroad; and borrowing domestically. Each of these methods of financing the deficit creates problems with the macro-balances, which must be taken into consideration by policy-makers. Printing more money can finance a budget deficit, but only at the expense of higher inflation. Financing the deficit by monetary expansion results in the private sector holding more money than it requires. Unwanted money balances are therefore spent on consumption and investment goods. With only limited domestic supply (assuming full employment), prices rise. Foreign borrowing is constrained by the capacity of the country to bear the increased debt burden and its international credit rating. Finally, borrowing from domestic sources can lead to higher interest rates and reduced private investment, thus contradicting the growth objectives of governments.

In most African countries, there are limited opportunities to borrow domestically, given the shallow domestic credit markets and low levels of private-sector savings. If financing the public-sector deficit through reducing the private-sector deficit is not feasible, most African governments must finance their deficits either through external borrowing or through printing money. And each of these is subject to macro-economic constraints — the former is constrained by external indebtedness and credit-worthiness and the latter by its adverse effects on the inflation rate. In general, governments are therefore obliged to reduce the fiscal deficit during periods of adjustment, simply to restore the macro-balances. This obviously reduces their room for maneuver to protect various components of expenditure which are concerned with the social dimensions (such as expenditures on health and education). But under a program of structural adjustment (as opposed to simply stabilization — see Part I for a discussion of the distinction), there are possibilities for some room for maneuver, relaxing the macro-economic constraints and permitting smaller reductions in the fiscal deficit than would otherwise be the case.

Macro-accounting under structural adjustment

There are three principal ways in which the resource constraints imposed on governments seeking to maintain the macro balances can be relaxed though structural adjustment programs: by increasing economic growth; by encouraging structural changes in the composition of output; and by increasing the availability of external financing. Each of these is discussed in turn.

Economic growth and the fiscal adjustment

A more rapid rate of economic growth generally increases the budget deficit a government can sustain without violating the basic macro-balances. In the first place, the government can raise resources to finance a budget deficit through monetary expansion without causing inflation. This is because growth increases the demand for money balances by the public, so that some monetary expansion will not be inflationary. If the money balances held by the public are 10 percent of GNP, for each percentage point GNP increases, the government can obtain 0.1 percentage points of GNP in revenue through printing money. There is therefore a significant difference in the macro-balance constraint on seignorage with and without economic growth.

But economic growth also releases the macro constraints on financing a fiscal deficit
through borrowing, by relaxing the debt-burden constraint. The faster the growth rate of GNP, the more accumulated debt can be incurred without aggravating the debt/GNP ratio. A government's room for maneuver to raise finance through borrowing will critically depend on whether such borrowing will lead to unstable debt dynamics — that is an increasing accumulation of debt, which will ultimately prevent any further borrowing from taking place. If the interest rate payable on the accumulated debt is greater than the rate of economic growth, it will not be possible for governments to borrow to finance a fiscal deficit without causing serious debt problems, since in each passing year, the debt/GNP ratio will inexorably rise. But if the rate of growth exceeds the interest rate, some permanent fiscal deficit can be financed through borrowing, with the debt/GNP ratio falling over time. So more rapid growth will permit extra room for maneuver for governments to finance a fiscal deficit through both seignorage and borrowing, whilst at the same time maintaining macro-balances.

11.10 This has some critical implications for the nature of any fiscal adjustments the government may be obliged to make. If expenditure cuts have the effect of reducing the rate of economic growth (as for example, if they result in a deterioration in the infrastructure which supports productive activities), they may cause a tightening of the macro constraints faced by fiscal planners. The government needs to identify the combination of expenditure-cuts and revenue increases which reduces the budget deficit with the least adverse affects on the supply-side. In so far as the fiscal-mix most favorable to output is found, less aggregate demand contraction is needed than otherwise (Chhibber and Khalilzadeh-Shirazi, 1988).

11.11 Similarly, it is possible that monetary constraint may reduce output, again aggravating the resource constraints government face in restoring macro-balances. Whether monetary contraction does in fact depress output is a subject of some debate (see Demery and Addison, 1987a for a review). Khan and Knight (1985: 9-11) from their assessment of the evidence, conclude that on average a 10 percent reduction in the growth of the money supply will tend to cut growth by just under one percentage point over one year. But when the supply-enhancing effects of measures such as devaluation are included in the calculation, there is no general presumption that stabilization will reduce output in developing countries (Khan and Knight, 1985: 24). Those of the structuralist school are more pessimistic about the outcome, although less pessimistic about Africa than other regions. Taylor (1988: 166) argues that recent African programs have, through external financial support, permitted an immediate import increase and positive growth. The task of stabilization is therefore a difficult one. Aggregate demand reduction measures must unambiguously aim to achieve the stabilization objective, while minimizing consumption losses by the poor and reflecting the need to maintain crucial supply enhancing components of aggregate demand.

**Fiscal adjustment with structural changes**

11.12 The analysis of Part I shows clearly that even in the absence of growth, the reduction in aggregate demand required to restore the macro-balances is greater if there is no output and expenditure switching in the economy. These structural changes in the composition of output (as opposed to its overall rate of growth) can therefore give governments more flexibility in adjusting the fiscal deficit.

11.13 Given market distortions, such as low producer prices and inefficient marketing, output is lower than it would otherwise be. The economy would be within its production possibility set. Removing these distortions would take total output to the frontier, raising especially the output of tradables. If improvements in the level of output can be achieved quickly, less demand restraint will be needed in the short term to achieve the target reduction in macro imbalances. However, slow supply responses to policy change may delay improvements in output, so the scale of demand reduction may have to be retained in the short run. The point still stands, however, that some early liberalization will give more flexibility over the aggregate demand target. Similarly, through devaluation, the re-allocation of resources towards tradables (along the production frontier) is further encouraged. Given a target for the trade deficit, less demand restraint is required when the currency is devalued. In summary, insofar as the relative price changes initiated by structural adjustment lead to changes in the structure of production and consumption, they will at the same time reduce the required reduction in the fiscal deficit that it consistent with the macro-balances.
**Raising external finance**

11.14 Finally, the donor community can increase the government's room for maneuver by committing external finance to the adjustment program. Key public and private expenditures can thereby be supported, reducing the threat that resources for these items will have to come from a reduction in either consumption by the poor or social provisions to them. If sufficient external finance is available levels of real public and private investment can be raised. This allows increased attention to be given to the growth and efficiency objectives of adjustment alongside the macro-balance objective. Under a structural adjustment strategy supported by adequate levels of foreign finance, changes in the structure of output can take place within a policy framework promoting the growth of total output.

11.15 Because growth is largely a secondary objective under stabilization programs, the prospects for poverty reduction are somewhat limited for the reasons discussed above. Much can be done, but the constraints are severe, and the exercise is rather one of damage containment. Room for poverty concerns becomes greater when adjustment design gives greater weight to the growth and efficiency objectives, in addition to the macro-balance objective, and when external finance is available to support the program. Under these circumstances, it is more likely that both consumption by the poor and social expenditures to them can be maintained and even expanded.

*The composition of aggregate demand reductions*

11.16 Given the aggregate constraints that governments face in restoring the macro-balances, there remains additional room for maneuver in determining the composition of the reductions in aggregate demand that are applied. We shall explore in some detail what this implies for the types of government expenditures that are cut in the next section, but first we consider at a more aggregative level some of the trade-offs faced by governments seeking to reduce the level of aggregate demand in the economy. The level of aggregate demand is important because one of its components is consumption by the poor. The poor can sometimes reduce the value of their consumption without adverse nutritional effects by switching from superior foods to inferior foods which are less costly (but as nutritious). While much resilience has been observed among the poor in their coping strategies, this cannot be relied upon for securing the objective of poverty reduction. Their consumption is often severely depressed in the pre-adjustment period, and further consumption declines will lead directly to lower nutrition and depreciation of human capital, thus damaging the economy's capacity for future growth.

11.17 At the same time, however, governments need to ensure that some other important components of aggregate demand do not contract. Private investment is one component, and this needs to be maintained and eventually increased especially in export sectors. Likewise, poverty-focused social provisions by governments need to be systematically protected. Government expenditures on key infrastructure and services need similar priority if the economy's supply-side (especially in tradables) is not to be damaged. The task is therefore a difficult one. On the one hand, the following components of aggregate demand need to be maintained or raised: consumption by the poor; private expenditures on investment goods; and public expenditures on key economic and social infrastructure. On the other hand, the level of aggregate demand must be cut to reduce inflation and the external deficit. Some component of demand must therefore give way to protect priorities. This means that either consumption by the better-off should be cut or the budget deficit should be reduced. The latter can be achieved by cutting inefficient and low-priority public expenditures. Consumption by non-poverty groups can be cut through raising taxes whose incidence falls upon them, and charging for their use of public services. Both of these also reduce the budget deficit through its revenue side.

*Simulating the poverty outcomes of macro-policy strategies*

11.18 The preceding discussion has highlighted the difference in poverty outcomes between stabilization versus growth-oriented structural adjustment programs. The first step in designing poverty-sensitive adjustment is therefore to seek external finance to support strong supply-side measures. However, much remains to be learned of the best combination of macro-instruments from the perspective of poverty outcomes. The princi-
pal macro-instruments are the level of the public budget deficit, the rate of monetary expansion, and the exchange rate. Do some combinations of these policies generate better poverty outcomes than others, while still achieving the objectives of macro-balance, efficiency and growth? In the context of stabilization, it is certain that some instruments will result in a more inequitable reduction in aggregate demand than others. For example, an attempt to reduce the fiscal deficit by raising income taxes will lead to the better-off groups bearing a major part of the cut in expenditures, as compared with increases in sales taxes. Similarly, operating on monetary instruments which raise interest rates will curtail spending in general, but particularly by debtor groups, who may be among the poorer sections of the community. But if money markets are liberalized at the same time, poorer households which previously borrowed in non-formal markets may not have to reduce their spending by as much as others.

11.19 Second, we do not know enough about the optimal sequencing of macro-policy changes: from a poverty perspective, should devaluation precede reductions of the fiscal deficit or follow it? Third, are poverty outcomes affected by the time-scale over which a given monetary and fiscal contraction is to be undertaken? Fourth, how should macro-instruments be coordinated with measures of market liberalization and investments in structural change? These would be unimportant questions in a world characterized by perfect markets and where the private sector had perfect foresight. But in Africa, where the meso-economy has been extensively disrupted, and where expectations of policy play an important role, we can expect different outcomes for poverty depending on these four aspects of macro-policy design. To take one example, for Zimbabwe different combinations of macro-policies and liberalization (all set to achieve the same targets) have been found to have significantly different effects on output and inflation due to expectations (Chhibber et al, 1989). Variations in poverty outcomes of these policies are therefore to be expected as well.

11.20 Since African economies show considerable variations in market structures, policy approaches, and macro-problems, there is a need to employ tools which facilitate the identification of poverty scenarios associated with different macrostrategies. Each scenario should indicate whether aggregate poverty is expected to rise or fall under the particular policy-mix, which poverty groups are liable to gain or lose, and the orders of magnitude involved. This task is essential because much discussion of the poverty effects of macro-policy packages is clouded by insufficient country evidence. The debate on the output effects of demand management has, for example, generated more heat than light because country evidence in Africa is very thin, and is open to a wide variety of interpretations.

The public finance strategy

11.21 Our discussion so far has centered on the flexibility that governments have in adjusting the overall fiscal deficit, and in determining the burden borne by the various broad components of aggregate demand. We now consider in greater detail how a government, in setting the level and composition of real public revenues and expenditures, can pay greater attention to social dimensions. Establishing priorities for public expenditure changes which favor poorer groups requires some knowledge of which groups benefit from the various expenditure categories. For this, the SDA information system will play a key role, since it will identify the main poverty groups, and provide information on their use of public services. This should provide the basis for protecting expenditures in the short run which benefit poor groups. It should also direct medium-term public expenditure restructuring. To improve the poverty focus of the fiscal strategy, the following interdependent sets of issues need to be addressed: establishing social and economic priorities in public expenditures; phasing public expenditure reform; and financing core expenditures. These themes are discussed below.

Social- and economic-sector priorities

11.22 A key challenge of public expenditure reform is to protect and expand core expenditures benefiting the poor, and to improve the cost-effectiveness of social-service delivery. It is also important to build a “safety-net” for the very poor, who, through multiple deprivations, are less able or unable to gain benefits from adjustment-led growth. Projects and programs need to be designed for the poor in such areas as regional and community development, credit and marketing schemes, technical assistance in agriculture and micro-enterprises, and small-scale irri-
The rehabilitation and maintenance of physical infrastructure (roads, water supplies, drainage, sewerage, etc.) are known to be productive and employment-intensive, to have short lead times, and to have prospects of good economic returns (Anderson, 1987a and 1987b).

11.23 Core expenditures benefiting the poor must include investment in human capital (health, education and targeted food-linked transfers) and support to production and trade. In health the priority is to achieve higher cost-effectiveness in public services and their reorientation toward the needs of the poor, particularly in primary health care. Resources released through productivity gains can be used in priority programs, with significant benefits for poverty target groups (World Bank, 1987a and Mosley and Jolly, 1987). The re-allocation of resources from expensive urban hospitals to rural and urban clinics, the replacement of expensive treatments by cheaper and more effective alternatives, an emphasis on basic drugs, and the greater use of paramedics are all ways of delivering better health-care at lower unit-cost. Resource savings can be used for special programs targeted to vulnerable groups, for example the screening of children and mothers from low-income households, appropriate follow-up programs for nutrition and health, health education, and immunization against the most prevalent diseases. Since much health-care is provided within the household, usually by women, attention must be given to programs which raise women's resources, educational levels and the time that they have available for such tasks.

11.24 With public health provisions in short supply, attention should be given to increasing the provision of private facilities, both by profit-making enterprises and community-based organizations. This would entail removing government-induced limitations on their capacity to operate. Encouraging the use of private facilities by better-off households will allow more public resources to be allocated to target groups. Similarly, the introduction of user charges for public services will generate resources for the funding of targeted programs, although user charges should not be allowed to inhibit access to vital services by the poor.

11.25 There is a strong relationship between household welfare and educational attainment. Policy actions which affect education have profound effects on present and future income. But the education systems of many African countries are currently in a state of fundamental disequilibrium. Fiscal constraints, but also difficulties within the educational system itself, necessitate adjustments in educational policy. Enrollments across the region have stagnated at all levels, but especially at the primary level. The population of pre-school children is projected to grow at 3.3 percent per annum until 2000, and the growth rate of 2.9 percent in primary enrollments expected by some analysts will not keep pace (World Bank, 1988d, 1-2). The quality of education has fallen with a deterioration in the supply of inputs (especially books and equipment), and this has been reflected on the output side with the available evidence suggesting a fall in cognitive achievement compared to other developing regions (World Bank, 1986c and 1988d). Finally, females have generally less access to education than males, especially at post-primary levels.

11.26 Targeted staple food subsidies are a key element of food security policy aimed at improving the welfare of the poor. For this, it must be possible not only to identify these groups, but also to effectively target the assistance that is given. It is not our purpose here to rehearse the problems and opportunities encountered in targeting (see, for example, World Bank, 1986e and Demery and Addison, 1987b), but to note that the identification and appraisal of targeting possibilities is central to any policy analysis undertaken within the SDA program. The problem with across-the-board transfers (such as food price subsidies) is that they are generally inconsistent with the objectives of public expenditure reform. Alternatives include restricting subsidies to inferior goods or to product markets in areas where the target group lives (World Bank, 1986e: 40). Where neither of these approaches is feasible, direct food interventions may be needed, as for example through food programs supported by food aid, feeding programs through schools and clinics, or the mobilization of cash transfers (World Bank, 1988e). There are few, if any, successful targeted food subsidy programs in Africa operating through the market. Given that general subsidies are inadmissible from a fiscal point of view, this is a priority area for monitored experimental interventions.

11.27 There exists a potentially difficult trade-off between protecting social programs on the one hand, and funding crucial economic sector expenditures on the other. Clearly, the solution
cannot be of an "either-or" type. There is a need to find an appropriate balance between expenditures of both types. In striving this balance, economic policies should be designed so as to maximize the benefits to poorer groups. The need for economic policy reform along these lines is perhaps greatest in agriculture. Much public expenditure in African agriculture is towards state production as opposed to private farming, commercial farming as opposed to smallholder farming, and capital intensive infrastructure investment rather than small-scale infrastructure development needed to support peasant production. Agricultural research and extension activities are often under-funded. Public expenditures which can over the medium to long term help raise the productivity of smallholders should be protected along with critical social expenditures.

**Phasing public expenditure reform**

11.28 There are both short-run and medium- to long-run dimensions to the design of a poverty-sensitive public finance strategy. In the short run, it is essential to preserve (and even increase) core expenditures benefiting the poor by excluding them from budget cuts. While the exact sequence of measures depends on opportunities and constraints at the country level, intensive restructuring which involves raising the efficiency of spending is a longer-run task.

11.29 The first step in the short-run task of preserving core expenditures is to identify the services and programs that should be exempted from cuts. These typically include primary education, primary health-care, sanitation and targeted food consumption subsidies. Basic agricultural infrastructure and services should also be protected, given their role in reactivating production and their orientation to the sector which contains most poor people. Defining which programs within these broad areas are to constitute the "core" requires information on their benefits to the poor. Whilst this information is often lacking, some preliminary assessment might be feasible based on regional variations in the incidence of poverty. The SDA information system, in strengthening household-level data, would obviously provide a sounder basis for making such judgments.

11.30 The short-run strategy for preserving core social spending should, in the main, be limited to recurrent expenditures, i.e., program operation, maintenance and rehabilitation. Insufficient recurrent expenditure outlays have reduced the productivity of available physical and human capital (schools, teachers, health posts, and health personnel). Public Expenditure Reviews in Africa recommend raising the level of recurrent funding in key programs to levels compatible with effective use of the existing capital endowment.

11.31 The potential for raising the cost effectiveness of public expenditures benefiting the poor is undoubtedly greater over the long term. Greater flows of external finance and technical assistance can be expected, and the governments' own planning capabilities (through for example, an improved data base) will have been improved. Moreover, the benefits of investments involving long gestation lags (as is typical of many infrastructural developments), can be expected to come on stream. In raising the primary incomes of some poor groups, resources can then be made available to assist groups where poverty is more persistent.

**Financing core social and economic expenditures**

11.32 Raising government revenues is essential to the objective of fiscal stabilization. But it is also important for poverty reduction. Although resources to finance core expenditure programs can be found through savings in other components of the government budget, these may be insufficient. And the contribution to be made by such savings will inevitably decline over time as efficiency gains are made. Finally, while everything should be done to mobilize external finance, this cannot be relied on to sustain core expenditures indefinitely. Consequently, a widening of the government domestic revenue base is needed to secure the expansion of economic and social provisions over the long run.

11.33 External funds should preferably be made available to the general budget and earmarking of such funds should be avoided. In this way, they will be subjected to the priorities established under agreed expenditure reform program. This is particularly true of counterpart funds. Their earmarking for projects not already in the budget potentially has an inflationary impact, unless other commensurate expenditures are postponed. The interests of macro-economic stabilization and adjustment are best served by permitting counterpart funds to be spent soon after they are gener-
ated, and to be used for any expenditure in a
budget reflecting a commitment to public expen-
diture reform (Roemer, 1988: 15).
11.34 Turning to domestic resource mobilization,
taxes on international trade account for about 43
percent of the region's tax revenues (Shalizi and
Squire, 1987). Their importance has encouraged
the use of high tariffs, thereby contributing to
industrial inefficiency and discrimination against
agriculture. Because the import-substitution trade
strategy leads to increased capital intensity,
employment growth is discouraged. An increase
in tariffs in order to finance core expenditures
would therefore be counter-productive as far as
poverty reduction is concerned. It has to be ac-
knowledged that reducing tariffs (as part of a
liberalization strategy) can have the short-run
effect of tightening the macro-constraints, by both
reducing government revenue and increasing the
external deficit. This is another example of the
intimate connection between stabilization on the
one hand and structural adjustment on the other
that was discussed above.
11.35 Commodity taxes, which provide nearly
28 percent of revenues on average, do not distort
the efficiency of production as do trade taxes
(Anderson, 1987b). They will become an increas-
ingly important revenue source under current
tax reforms. However, the growth of such reve-
 nue is constrained by the pace of improvements
in tax administration and collection. So in the
short term their contribution to meeting the costs
of core expenditures may be small. They can be
made more progressive in structure, with luxury
purchases being subject to higher rates. Income
taxes, which are levied on either individuals or
businesses, presently account for nearly 30 per-
cent of revenues. Personal income taxes are col-
glected from less than 5 percent of the African
population, as compared to the 15 percent aver-
age for developing countries as a whole (World
Bank, 1988: 97). They offer some potential, there-
fore, for growth under current reforms (IMF, 1981:
26). Most of the poor will still be outside the tax
net, even if the 15 percent target is reached. They
predominate in smallholder agriculture and the
informal sector where income is difficult to mea-
sure, and taxes are difficult to collect.
11.36 It is unlikely that income taxes will per-
form a major redistributive role in Africa in the
near future. Because of its skill-intensive nature,
collection costs are high — in the range of 10 per-
cent. Nevertheless, improvements can be made
in their structure from an equity viewpoint. One
of the most important is to eliminate income tax
allowances and deductions, which primarily
benefit wealthier groups. At present there is
little hard evidence on the effects on households,
and thus on incentives and disincentives, of al-
ternative tax systems and cost recovery meas-
ures. In calculating where to set their tax rates,
policy-makers have few empirical studies to draw
on. This affects their ability to estimate the do-
metric revenues likely to be available to finance
programs of poverty alleviation. The collection
of household data sets of the kind discussed in
Part II thus has an important role to play in the
formulation of policy and in revenue-forecasting
exercises. This is one of the reasons why it is
important to obtain data not just on target groups,
since it is non-target groups who will provide
most of the domestic resources to finance pro-
grams. It is necessary to establish whether alter-
native anti-poverty strategies have revenue im-
lications, such that their effects on the decisions
of non-target groups make financing of some
projects impossible from domestic resources.
11.37 User charges are a potentially important
form of domestic resource mobilization. They
can be expected to benefit the poor, if the revenue
generated is used to extend the supply of essen-
tial services or raise their quality. If instituted
across-the-board and at equal levels for all serv-
ice users, they are, however, likely to be regres-
sive to the extent that the welfare loss of the poor
relative to income is larger than for the rich
(Gertler, Locay and Sanderson, 1987: 67). The
effect of user charges on the poor depends on the
price elasticity of their demand for services. If
social service demand is elastic (as documented,
for example, by Gertler and van der Gaag, 1988,
for Côte d'Ivoire), the introduction of charges can
be expected to result in a substantial reduction in
service use. Conversely, if the demand for serv-
ices is inelastic (as argued for the case of health
by de Ferranti, 1985: 38), households will not
greatly reduce their service use but may suffer
considerable income and welfare loss as a result
of the introduction of user fees. User fees should
not be allowed to restrict the access of poor groups
to vital services. While there is often untapped
potential for the collection of user fees or the
organization of communities for the purpose of
service delivery and partial or full-cost recovery,
there are likely to be very poor groups in every
society that need to be exempted from user fees.
Monetary and financial policy

Credit availability to the poor

11.38 We move now to consider some key meso-economic aspects of adjustment policy, beginning with the operation of credit markets. Poor people generally have little access to formal credit markets. It is not clear whether this is because of relatively low rates of return among poorer borrowers, or because of other factors, such as the high administrative costs involved in such lending. Whatever the reason, they must rely instead on more expensive informal credit. Available evidence suggests that in many cases poor farmers derive high returns from increased access to credit. In rural Kenya, for instance, poorer households have higher returns to land and capital than wealthier households, indicating that they could profitably use more land (Collier and Lal, 1986: 125). But lack of credit prevents them from buying or renting the necessary assets (or inputs). Lack of credit also prevents poor farmers from investing in the most profitable activities such as tree-crops and quality livestock. And by constraining consumption close to current income, it raises the risk of diversifying away from food crops. A similar situation exists in the rural areas of many countries.

11.39 If the poor can use credit as profitably as better-off groups, policy attention should be focused on why they are excluded from formal credit markets. Government intervention in credit allocations by the banking system might be one factor: large (often public-sector) borrowers are favored. This is further encouraged by the repression of borrowing rates below market levels which leads to credit rationing. When the latter occurs, the largest borrowers are favored because of profitable economies of scale in lending to them. But the returns on lending to inefficient public enterprises are often less than those on lending to smallholders. Inefficiency, as well as inequity, is the outcome.

11.40 Stabilization has the potential to rectify part of this problem. Even though a ceiling on total credit expansion is imposed, the addition of a credit ceiling on the public sector can release funds for private borrowers. In many IMF-assisted programs, including those in Africa, the growth of lending to the private sector has actually increased in real terms (Heller et al, 1988: 16). In determining credit ceilings there may also be scope for special provisions to favor loans to sectors with high levels of poverty. Some IMF programs have explicitly supported credit expansion to the agricultural sector in general, and the smallholder sector in particular. While selective credit controls can cause major distortions if maintained indefinitely, special (temporary) credit provisions during the stabilization phase are warranted. The extent to which this can be done depends on how restrictive the ceiling on total credit expansion has to be, and thus on decisions on whether a demand-focused or supply-oriented program is to be implemented.

11.41 Likewise, raising interest rates to market levels will reduce the crowding-out of smaller borrowers, and from an equity perspective, early financial liberalization is desirable. Although poorer borrowers will pay the new (higher) interest rate on their formal loans, this will generally be much lower than the costs of informal credit. There is some evidence of these benefits having occurred under programs in Ghana and Kenya (Heller et al, 1988: 16).

Credit programs for poverty target groups

11.42 While adjustment in itself may direct more credit to low-income borrowers, the gains to the poorest borrowers are unlikely to be large, mainly because of their lack of collateral. The latter signals credit-worthiness and provides lenders with risk insurance in case of default. Measures to raise the productive assets of the poor could improve their collateral. Legal and administrative measures to secure their titles to assets such as land will have a similar result. In particular, allowing women farmers to hold title to land will remove some of their difficulty in gaining access to formal credit. This has limited their cultivation of the most profitable crops, contributing thereby to efficiency losses for the economy and to female poverty (Horenstein, 1989: 23).

11.43 In designing credit programs which help the poor, it is essential to work through "semi-informal" financial institutions. Africa’s informal financial system is diverse, and includes rotating funds ("susu", "tontines"), mobile bankers, and money lenders. Because lending takes place within small communities and often within kin networks, lenders have much more knowledge about the borrowers’ prospects than any modern bank. Credit is thus more readily obtained, especially in the small amounts usually required, but
which are too expensive for banks to administer. Accurate assessments of credit-worthiness, plus social pressures, normally ensure high levels of loan repayment. However, lending tends to be short-term, often seasonal, so that not much long-term finance is provided. Therefore, potentially profitable investments are not made by the poor.

11.44 Consequently, the promotion of semi-informal financial institutions, having the advantages of the informal system, but being able to provide longer-term credit as well, has some appeal. The practice of group lending has been used with some success in Malawi and Zimbabwe (Schaefer-Kehnert, 1982), and the ILO has appraised its introduction in The Gambia. Savings and loans associations have also proved effective in Western Cameroon. The success of the Grameen Bank in Bangladesh, especially at reaching rural women, has prompted much interest in these schemes (Hossain, 1988). Women in poor communities often form savings and loans clubs, and these are natural candidates for group-lending schemes. Their high repayment rates make such groups a useful means for delivering credit to the poor, without jeopardizing the restoration of financial soundness. In this way poorer people will find it easier to adapt their enterprises to policy reforms, and will have more chance of entering the high-return activities promoted by adjustment.

11.45 Group-lending schemes depend on the mobilization of communities themselves. While their pace of development can be promoted by government and external agencies (drawing particularly on NGO experiences), their expansion can become too rapid under the influence and finance of outsiders. Group accountability and local sanctions on debt default will then be diminished, enhancing the sustainability of the schemes themselves (World Bank, 1989a: 117). Moreover, the development of literacy skills is an essential prerequisite for such schemes to be administered through local communities. Hence, they depend on the availability of appropriate social infrastructure. Finally, since groups select their own members, the very poorest may be excluded. This can occur if the very poorest people are subject to cultural prejudices. Special lending-groups for these people would then need encouragement. Alternatively, the very poor may truly be bad risks, because of chronic malnutrition and disablement, for instance. Other forms of help, rather than encouraging them into debt, would then be appropriate.

Credit programs for retrenched employees

11.46 Workers who have lost their jobs from the public or private sectors as a result of adjustment, and who wish to start small businesses, can be assisted through credit schemes. This is now being done in The Gambia, Ghana, Guinea, Senegal and Mauritania (World Bank, 1989b). Many of the principles discussed in relation to credit programs for the poor apply to these schemes as well. Interest rates must not be set too low, otherwise unrealistic proposals will be attracted, and the revolving fund will risk decapitalization. To avoid a proliferation of credit institutions, each with high transaction costs, it is desirable to base such schemes in existing institutions, where this is financially prudent. For example, a credit scheme in Ghana is being operated by local banks with funds from the central bank. Alternatively, a single agency should be established for all credit schemes. This is particularly important since the schemes for retrenched workers will, by the nature of the problem, be only temporary. Moreover, having all credit schemes under one institution, implies that—at the margin—credit should go to the best use, irrespective of whether it is for the rural poor or for retrenched employees.

11.47 Assistance and training may also be needed for workers to prepare satisfactory loan applications. For example, the Indigenous Advisory Service (IBAS) in The Gambia gives such help prior to the final round of project submission. If such schemes are to be effective, then the process of decision and granting of the loan must be as rapid as is financially prudent. Existing schemes have often been too slow due to stifling bureaucracy. Further technical assistance from specialized agencies would be desirable in this regard. Some existing schemes have already suffered from low repayments. One example is FIRVA in Mauritania which has a 31 percent repayment rate (World Bank, 1989b). The use of severance pay as collateral may improve repayment rates. Since many proposals come from business partnerships, group-lending would be an appropriate instrument to reduce loan default. Such schemes are obvious candidates for donor assistance. IBAS in The Gambia is already supported by UNDP and ILO. The latter together with USAID is assisting the creation of a similar scheme in Senegal. ILO has also appraised and
advised on a number of other such ventures. The appraisal and implementation of such schemes takes time, and since their phasing with policy reforms is crucial for their effectiveness, inter-agency collaboration is important.

**Mobilizing the savings of the poor**

11.48 The low-population densities in most rural areas have made it difficult to bring modern banking facilities to the mass of the African population. The cost to banks of operating in rural areas is often not justified by the business that is generated. While traders in rural areas frequently provide informal deposit facilities, no interest is usually paid (since the deposits are not used as the basis for loans, as in a bank). The poor are thus denied the interest income that provides some compensation for inflation. The potential for mobilizing local communities is again apparent in this area. Rwanda’s Banques Populaires, for instance, with villagers as members, have reached remote areas that are not covered by the commercial banks (World Bank, 1989d: 172). In addition, linking informal savings clubs to formal financial institutions improves the access of the poor to formal deposit-taking facilities (and loans as well). In Congo, informal savings clubs have been enabled to make deposits in local savings and credit cooperatives. This has facilitated greater access by villagers to the formal financial system than if they had acted individually. Finally, interest rate liberalization is crucial so that nominal rates match the rate of inflation. This will encourage deposits, the growth of financial intermediation, and contribute to growth. It will also be equitable in that the poor, unlike the wealthy, have no access to foreign goods or capital to protect them from domestic inflation.

**Exchange rate policies**

11.49 Devaluation affects the poor as producers, as suppliers of labor, and as consumers. It does this through raising the prices of tradables relative to non-tradables, and through influencing the real wage. Since urban and rural poverty groups are affected in different ways, the policy implications for each are discussed in turn.

**Prospects for the urban poor**

11.50 For devaluation to motivate producers to move into tradables production, the wage-rate must fall relative to the price of tradables and must rise relative to the price of non-tradables. This encourages labor transfer into tradables (see Part I). The contraction of production in non-tradables, and its expansion in tradables is further facilitated as capital is relocated in the longer run. It is well known that when the economy is near full-employment the real-wage effect of devaluation is ambiguous, depending in the short run on whether workers consume more tradables than non-tradables, and in the long run on relative factor intensities in the sectors (Corden, 1985). When unemployment exists in the pre-adjustment period, devaluation unambiguously reduces the real wage. But employment is certain to rise, provided that the devaluation leads to an increase in output (which implies that any deflationary effects are not significant). Finally, when labor-market imperfections exist, the real wage effects are more complex, since not all workers are affected in the same way. If it is accepted that the formal labor market is predominantly in the non-tradables sector, mainly the public sector, a devaluation will tend to narrow the wage differential between formal and informal sectors, which is generally equitable. However, this does not preclude falls in the real wage: it may be that formal-sector wages simply fall more than informal wages.

11.51 Assistance may be needed where tradables form the main consumption items of the urban poor. This will be the case in particular when tradable food crops constitute the main wage-goods. Devaluation, together with increases in official producer prices, raises food prices where these are tradables. First-best help will include targeted food aid or subsidies, the promotion of peri-urban farming among the urban poor, and assistance to those re-migrating to rural areas. Less assistance will be needed to cope with effects on nutrition when the urban poor are already purchasing large amounts of food in parallel markets. Prices in parallel markets are closer to world parities, so that devaluation will leave these prices unaffected. Similarly, if other importables consumed by the poor have been subject to quota restrictions, and economic rents have been earned by traders having access to the licenses, then the consumer price effect of devaluation coupled with liberalization may be small. However, the use of food policy interventions as part of an overall strategy to tackle urban poverty may still be needed.
Prospects for the rural poor

11.52 In most African countries tradables are mainly agricultural commodities: export crops and most food crops. Some subsistence food crops are non-tradables in remote areas. By raising the prices of tradables, devaluation will tend to benefit the rural poor as producers. This beneficial effect, however, depends on there being in place an efficient product market to communicate the beneficial price changes to the farmers. If this is not the case, farmers may not gain the full potential offered by the new incentive structure.

There is some evidence that this problem does exist (see Thomas, 1989 and Thomas and Weidemann, 1988), with monopsonistic product markets preventing farm-gate prices from benefiting from devaluation. Where this problem does arise, devaluations should be combined with selective policy interventions to improve the functioning of rural product markets.

11.53 The role of the meso-economy in determining how devaluation affects the rural poor is therefore critical. The chronic poor in remote regions who produce non-traded foods will see no improvement in their prices resulting from devaluation, but no decline either. As investments under adjustment improve the meso-economy, remote regions will be drawn into national markets. Local prices will increasingly be affected by national (and world) market conditions. In turn, non-tradable foods will become more tradable in character, and the chronic poor might benefit as producers if they can market some surplus. Price measures such as devaluation, therefore, will benefit the poor as producers if phased with infrastructural investments in remote areas, together with projects to raise the ability of poor farmers to produce marketable surpluses of tradables. Some of these benefits may occur quickly as the import support associated with adjustment improves rural transportation, but the gains from project interventions will usually be reaped over the medium term. In so far as the pace of devaluation may be slower under structural adjustment than under stabilization as a result of a higher level of external finance in support of the program, the chronic poor may in the meantime have been helped to a position where they gain greater benefits as producers.

11.54 If poor households produce non-tradables, or if they make intensive use of imported intermediate inputs such as fertilizers, they will be adversely affected by devaluation. The key to raising their incomes lies in creating alternative production patterns, which may require complementary policies, such as targeted extension services encouraging farmers to change crop mixes.

The issue of raising the capacity of farmers to respond to the new price structure, however, not only applies to farmers previously producing non-tradables. To benefit fully from the devaluation, tradables farmers must also raise output levels. If they are constrained from doing so, as for example if the economic infrastructure is poorly developed, there is an obvious case for policy intervention. Again, it should be noted that a policy directed at involving poor farmers in the process of adjustment — in this case, raising their capacity to respond to price incentives — not only increases their incomes, but also enhances the adjustment program itself. If supply response among the poor is low, this does not lead to the conclusion that devaluation should be abandoned as a policy tool. Rather, it reconfirms the importance of the five-point strategy to raise the capacities of poor producers. In particular, it points to the importance of reducing food-insecurity, thereby reducing the risk constraint which partly holds back the participation of the poor in export crop production. In this sense, the drive to improve food-security is complementary to meeting the objectives of devaluation.

11.55 As rural wage-earners for either estates or smallholders, the poor are likely to gain in the medium to longer term as the demand for their labor (in the cultivation of tradable crops) rises. Rural labor frequently has a low supply-elasticity in most African countries because of the relative absence of landless laborers. Most labor is part-time by farmers, and the seasonality of agriculture forces the wage up at the busiest times when everyone has a labor shortage. The real-wage effect for rural wage-earners of devaluation would thus tend to be beneficial over the longer term. This is especially true where the adjustment program induces sustained agricultural growth.

11.56 In the short term, however, rural wage labor might suffer a real-wage fall. This is particularly the case where the estate wage falls relative to the price of the goods produced by the estates. Whether smallholders would require any such real wage fall to induce their expansion of tradable production is uncertain, and complicated by the fact that they mainly supply the wage labor to each other. The short-term effects of devaluation
on real wages are therefore somewhat ambiguous. In sum, some food intervention to the rural poor, especially on estates, will be warranted, although the scale of this will be much less than that needed in urban areas. Donors such as the World Food Programme already have extensive experience in food assistance to estate workers. And food interventions to rural populations more generally have improved under programs meeting drought-induced food insecurity. These programs may therefore provide appropriate avenues for food assistance under adjustment.

Should the speed of devaluation be altered for poverty reasons?

11.57 Delaying devaluation when labor market imperfections exist is generally a second-best solution to the ensuing poverty problems. Devaluation should in most cases release enough efficiency gains to permit assistance to poor wage-earners and still leave a positive net gain from the reform. Rigidities in product markets are a different matter, however. If supply-side rigidities are found to significantly slow the required switch of resources to tradables, so that the main effect of devaluation is to raise the overall price level, a slower pace of devaluation may be warranted. With only limited supply-side responsiveness, domestic recession threatens, because tradables output shows only small improvement, whilst the production of non-tradables falls. If the devaluation-induced price rise touches off inflationary expectations so that all prices ratchet further upward, the recession would be more severe. Urban producers of non-tradables would be negatively affected, and a limited responsiveness of rural tradables output would provide insufficient employment for labor shed from urban occupations. Downward pressure on wage rates throughout the economy would result.

11.58 In avoiding inflationary expectations, a slower rate of devaluation will therefore attain the given balance of payments objective with less short-run cost in terms of lost output and incomes. In countries where infrastructure is depleted, these points reaffirm the need for an externally financed structural adjustment program, focusing on the supply-side of the economy. It is clear that different assumptions about supply-side expansion, business expectations, and policy combinations have an important bearing on what theory predicts.11

Trade policies

11.59 In this section we address three basic issues. The first concerns the overall trade strategy in the face of constraints on export expansion and terms of trade changes. This issue raises the question of how much potential exists to raise output and incomes among export producers in Africa, many of whom are poor. Second, a comparison (from the poverty point of view) is made between devaluation and import restrictions as instruments for correcting an external deficit. Finally, the problems encountered in trade liberalization are reviewed from the poverty perspective.

Export-demand constraints

11.60 One of the motivations underlying the choice of an inward-looking trade strategy is export pessimism rooted in the conviction that (i) the net barter terms of trade are in inexorable decline (the Prebisch/Singer hypothesis); and (ii) that the world market absorptive capacity for additional African exports is low (the so-called fallacy of composition). If true, these hypotheses cast shadows on the possibility of restoring growth under adjustment and the scope for poverty reduction through increased production of tradables. Reality is both more complex and, on balance, less discouraging.

11.61 It is necessary to distinguish between a secular decline in the net barter terms of trade and price variability over time. There is widespread consensus among analysts nowadays that the claim of a secular decline in terms of trade is not sustainable. Conclusions critically depend on the chosen period of observation. Unresolved measurement problems (e.g., accounting for quality change in industrial goods), make the net barter terms of trade a less meaningful statistic than might be assumed at first. The income terms of trade (i.e., the total receipts from exports divided by import prices) may be a more relevant measure since it is welfare related and takes into account productivity gains made by a country (World Bank, 1989c). The non-fuel primary commodity income terms of trade for Sub-Saharan Africa, while fluctuating, display neither a declining nor a growing trend during the 1965-85 period, the lack of an improvement being ascribed to the region’s slow growth in productivity and export production (World Bank, 1989c). The policy implication calls for measures to raise
productivity and output, including adjustment to correct the effects of import-substituting policies which were put in place on the basis of the Prebisch/Singer hypothesis, and which, by discriminating against agriculture, have been largely anti-poor.

11.62 Whereas during the 1960s African agricultural exports grew in volume terms at about 2 percent per year, they have since declined. Africa’s market shares of major agricultural exports have declined significantly. World Bank calculations show that if Sub-Saharan Africa had maintained its 1970 market shares of non-oil primary exports from developing countries, and prices had remained the same, export earnings of the region would have been US$9-10 billion a year higher in 1986-87 (World Bank, 1989c: 20). Prices might, of course, have declined somewhat as a result of increased supplies, if other suppliers had not reduced their share in total exports. It has been argued (Koester, Schäfer and Valdes, 1989) that whether or not world market prices and exporters’ foreign exchange earnings decline as a result of an increase in agricultural exports depends on: (i) the rate of this increase relative to the growth in world demand; (ii) the price elasticity of world demand; and (iii) both the world market share of a particular country or group of countries and the supply response of competing countries to changes in world prices. For example, the maintenance of earlier African agricultural export growth might well have led more advanced developing countries to diversify their production and export patterns, thus diminishing the competition faced by Sub-Saharan Africa.

11.62 If world demand for a particular export crop is price inelastic, price and total revenue (i.e., foreign exchange earnings) vary directly, i.e., a price decline due to a given increase in export volume would lead to a reduction in foreign exchange earnings from that crop. This would be serious in the case of countries which have achieved a dominant position in the world market for a single crop. This would appear to be the case with Côte d’Ivoire and its experience with cocoa. It is unlikely, however, to be a serious problem in countries with a more diversified export base. These considerations are of some significance for our present concern. If only a limited potential exists for an expansion in commodity exports in Sub-Saharan Africa, the scope for raising the incomes of poor smallholder exporters would also be restricted. On the other hand, countries facing less constrained export markets will have more room for maneuver to enhance the incomes of export farmers.

Are import restrictions better for the poor than devaluation?

11.63 The argument is sometimes made that import restrictions have more favorable poverty effects than devaluations. Specifically, since tariffs only increase the price of importables, while devaluation increases the price of exportables as well, the reduction in real income, particularly real wages, under tariffs will be less than under devaluation. Tariffs can be concentrated on “luxury” goods, and the tariff revenue can be used to cut taxes, thereby minimizing the overall change in the cost of living of the poor. Finally, if quotas on luxury goods are sufficient to reduce the trade balance deficit, then no major cost-of-living increase need occur for the poor.

11.64 This line of reasoning has underlain attempts by many African countries to resolve their balance of payments problems without recourse to devaluation. Since import restrictions have been an integral part of most industrialization strategies, the use of such restrictions to cope with recent balance of payments difficulties seemed appealing. However, while quotas and tariffs were often intended to cut only luxury imports, the size of the terms of trade decline has forced reductions in basic imports as well. Foreign exchange savings through import substitution have not been rapid enough to prevent the emergence of this pattern. Indeed, in many cases they have not been large enough to maintain the intermediate imports essential for the functioning of the domestic economy.

11.65 In practice, therefore, unless balance of payments difficulties are temporary and small, which Africa’s are certainly not, import restrictions will inevitably induce large changes in the prices of basic goods. Moreover, attempts to ration basic imports — at subsidized prices to poor consumers alone — have had little success in Africa, judging by the prevalence of parallel marketing. The claim that import restrictions have less unfavorable cost of living effects compared to devaluation is therefore weak in current circumstances. However, the major problem with such a strategy is the damage it does to export production, since import restrictions motivate investment in the protected sectors where the apparent returns are highest. Real wages in the latter are thus effectively maintained through
taxing exports (Corden, 1987: 18). Raising import restrictions tends to perpetuate a dualistic pattern of employment, i.e., limited employment in the high-wage protected sector and underemployment elsewhere. In contrast, export activities encouraged by devaluation would tend to be in labor-intensive industries, since Africa's comparative advantages lie mainly in labor-intensive products.

Small farmers are also worse off under an import-restricting strategy compared with a devaluation, because the latter raises agricultural prices, since most crops are tradable. Efficient producers of import substitutes are also discouraged since they are least likely to obtain protection, and investment in protected importables gives higher returns. This applies particularly to food crops, many of which are unprotected importables. And market scarcities under quotas encourage the investment of resources in rent seeking, to the detriment of productive activities. Although the higher tariff revenues can finance government programs which offset some of the undesirable effects of protection, it is almost certain that devaluation will generate higher revenues beyond the medium term, through its effects on output, and thus on the size of the tax base.

*Trade liberalization*

Although protection has encouraged domestic industrialization through import substitution, it has reduced the pressure for firms to improve efficiency. Inefficiency has been further protected by the increase in import restrictions as a response to balance of payments difficulties in the late 1970s and early 1980s. A clear case thus exists for reforming existing structures of protection, given the objectives of securing macro-balance, raising growth, and even improving equity. Import liberalization removes the disincentives to exports caused by import protection, and initiates a flow of resources out of protected importables into exportables. It can be expected to raise incomes since exportables in Africa are predominantly more labor intensive than protected importables. The latter are mostly import-substituting industries with above average capital-labor ratios, reflecting past strategies of cheapening capital through currency overvaluation.

Nevertheless, while trade reforms offer the potential for considerable efficiency and equity gains, there remains legitimate concern about the *transition period*. The long-term goals of trade reform require fundamental shifts in the allocation of capital and labor. Entire systems of industrial and manpower planning, constructed over two decades, are at present under review. Much money and effort has been spent in building up industries, whose activities are now being restructured, and in some cases, closed down. The other side of the coin, the nurturing of new industries requires the development of a policy environment conducive to private investment, and the coordination of the latter with the necessary public infrastructure and support services. None of this will be easy or trouble free.

In particular, capital and labor released from once-protected activities cannot be expected to move easily and rapidly into new uses. Protection is often concentrated on a narrow range of industries, many of which are often geographically concentrated. Special problems for those with industry-specific skills or capital will thus arise, together with highly localized unemployment. The process through which the longer-term benefits of trade reform are realized may therefore generate adverse employment and income consequences in the short to medium term. How can trade liberalization policies be designed to minimize these short-run problems? Should corrective policies change the nature of the liberalization process itself (that is, change the macro-level policy instruments), or should they be applied at the meso- or even micro-levels? There are three dimensions to such design:

(i) the speed at which liberalization should be implemented;

(ii) the stages that liberalization should go through; and

(iii) the relationship that trade liberalization should have to other economic policies (Michaely, 1986: 44).

**Speed of trade liberalization**

Theoretical cases can be made for both increasing and decreasing the pace of trade liberalization. On the one hand, there are circumstances in which it is advisable to slow down the speed of liberalization. When labor and capital cannot readily be moved out of the protected industry, neither improved efficiency nor higher output will be gained by reducing the level of protection at a rate faster than that necessary to...
discourage new workers from acquiring skills specific to the protected industry or new capital from being invested in it (Mussa, 1986: 95). Similarly, when labor is mobile, but capital is not, labor could not take up new employment when protection is removed from its old occupations because of the absence of complementary factors such as specific physical capital and managerial capacity (Edwards, 1988a). Too fast a liberalization of the sector would cause undue "frictional unemployment" in these circumstances (Michaely, 1986: 45). The extent to which these problems are likely to arise depends on a country's industrial structure and the sector-specificity of its factors of production. Fewer problems may be expected when re-allocations take place within firms, but greater "frictional unemployment" can be anticipated when movement is necessary across widely different activities and locations.

11.70 Some impediments to factor mobility may be caused by government interventions, for instance, minimum wages and regulations on hiring practices. Some may be improved by government interventions, as for example, through worker retraining. The first-best policy in such cases is often to tackle the problem directly, and not to modify the speed of trade liberalization, which would be determined by the efficiency objective alone. In other words, the guiding principle would be to retain as much as possible the macro-economic policy stance, but to apply selective interventions at the meso level to ease the transition process.

11.71 On the other hand, the presence of some types of market distortion imply that the liberalization process should be speeded up rather than slowed down, if frictional unemployment is to be minimized (Choksi and Papageorgiou, 1986: 7). This may occur when the adjustment of the economy to the existing speed of trade liberalization is too slow. For example, corporate taxation may discourage the movement of capital out of the protected sector. Alternatively, the credit market may operate in favor of protected sectors, so that firms will lose these benefits by adjusting their activities. If these distortions cannot be removed directly, and thus act as a drag on adjustment to trade liberalization, then there is a case for speeding up the latter, so that adjustment by firms is faster and frictional unemployment is reduced.

11.72 Similarly, high frictional unemployment can arise when the private sector doubts the government's commitment to liberalization, and is reluctant to move capital for fear of losses if the policy is reversed. Accordingly, rapid liberalization, rather than a graduated program, may be necessary to ensure policy credibility. Adverse expectations and/or market rigidities may even warrant a policy of reducing the level of protection to below its long-run optimal level in order to speed up the movement of resources out of protected sectors (Mussa, 1986: 84). Protection would then be raised to the optimal level after capital had moved in sufficient amounts.

11.73 While tackling mobility impediments directly may be the first-best policy, this may itself take time, implying that if unemployment is to be prevented, these reforms should be sequenced together with import liberalization. Thus, some alteration in the speed of liberalization may still be implied. The guiding principle that is established is that the macro-policy intervention (import liberalization) should be phased in relation to meso-economic policy interventions (first-best removal of market distortions). However, in most African adjustment programs, major trade reforms are in any case sequenced to take place after the stabilization phase. Removal of mobility-impeding distortions could thus begin in the former phase, implying in most cases no delay in implementing second-phase liberalization. Finally, it must be emphasized that African policymakers are not, by and large, faced with a distinct choice between moving immediately to free trade as against taking a more graduated approach. Rather they are faced with a range of choices involving different speeds of graduated liberalization. Reforming complicated systems of trade protection takes time, and it may be difficult to speed up the process to the degree required by equity considerations. External assistance can therefore be valuable in reducing the impediments in this area.

(ii) Stages of trade liberalization

11.74 Most African countries use quotas and tariffs to protect imports, and liberalization will entail the reduction of both forms of protection simultaneously. Alternatively, it is now common practice to convert import quotas into equivalent tariffs, thereby making the system of protection more "transparent". Tariff reductions are then applied in a second stage. There are potentially two benefits for social dimensions in this process. First, the rents earned by those hold-
ing quotas are converted into tariff revenues for the government, some of which may be used for social expenditures or poverty projects. Second, increased transparency in the protective structure makes it clearer how that structure affects poor people, as either producers or consumers. This makes it easier to design a liberalization program which maximizes gains to the poor. However, if the structure of market distortions is such that fast liberalization would minimize frictional unemployment, the time involved in converting the protective system will diminish the importance of these advantages.

11.75 Accepting that quotas have been converted into tariffs, how can reductions of the latter be applied in such a way that gains to the poor are maximized? We have already discussed how the speed of liberalization may be altered to reduce frictional unemployment. When impediments to factor mobility are not the same across all sectors, which is likely to be the case, minimizing frictional unemployment implies that liberalization will not take place at the same speed across all the protected sectors. This has the disadvantage of increasing variability in rates of protection, which may lead to resource re-allocations between the protected sectors but not out of them. Such a tendency would need to be discouraged by appropriate policies. The so-called "concertina" method of tariff reduction would seem to do the least damage to employment, judging from its success in other developing regions.15

11.76 Likewise, there may be scope for giving first priority to the liberalization of imports which are most important to the poor as consumers. Import facilities financed by donors could support this. However, modifying the liberalization program in this way may not be the best way of assisting the poor. Using import facilities to support the liberalization of imports in general may actually give more benefits to the poor through raising economic efficiency and thus medium-to-long term labor demand, while their problems as consumers could be dealt with through other means. Similarly, the liberalization of intermediate imports before finished goods is superficially an attractive idea given that low-income producers have been hit by the inefficiency, and thus high prices, of domestic producers of intermediate goods. However, this could actually raise the effective protection of the producers of finished goods, when the desired outcome is the contraction of many of them (World Bank, 1987b: 110).

(iii) Coordination of liberalization with other policies

11.77 The phasing of liberalization with other policy reforms and interventions is another critical issue that policy makers must address (Demery and Addison, 1989a). Our discussion of the pace of liberalization emphasized that this decision is partly based upon the degree to which meso- and micro-policy reforms can be undertaken to assist factor mobility. While such reforms may go far to reduce frictional unemployment problems, they may be insufficient to enhance the occupational mobility of the poor. The constraints limiting the freedom of action of the latter are severe, and must be tackled by a range of interventions. Social action programs may need implementation alongside liberalization measures to enhance their mobility.

11.78 The frictional unemployment costs of trade liberalization can also be minimized by appropriate macro-policy coordination. Although liberalization encourages the movement of resources into exportables, real devaluation is essential to strengthening this process, if employment losses in protected industries are to be swiftly matched by employment gains elsewhere (Corden, 1987: 20). If an especially strong signal to potential exporters is required, then there is an equally strong case for the initial devaluation to be a large one. Note, however, that devaluing prior to liberalization, while it encourages resource flows from non-tradables to exportables, also encourages such flows into protected importables. It is essential to discourage the latter by making it clear that any new investments in protected importables will incur a loss when liberalization takes place (Corden, 1987: 20). A firm public commitment to liberalization is thus essential. Imposing temporary restrictions over the direction of private investments, and other discouragements (such as credit restrictions on loans to protected importables) may also be needed, while liberalization of the product market takes hold.

11.79 It must be emphasized that potential employment problems will be reduced if trade reforms take place within a growing economy. In such cases, the output of import-substituting industries may take a lower share of total output but may not fall in absolute terms. Accordingly, employment in formerly protected industries will grow more slowly than before, but will not suffer any decline. Moreover, the efficiency gains resulting from the reform process will, through
higher output and income, increase the demand for non-tradables. In so far as trade reforms succeed in raising foreign earnings, non-tradable output does not have to be compressed to the extent otherwise necessary. Employment in private-sector non-tradables will therefore be more buoyant. The employment effects of liberalization will therefore be more favorable: such measures take place alongside other growth-promoting policies.

Policies towards self-employment

Sectoral employment trends

11.80 Agriculture provides on the average about 78 percent of employment in Africa, ranging from over 90 percent in countries such as Rwanda and Niger, to 70-75 percent in Cameroon and Zimbabwe, and to 60-65 percent in Congo and Côte d'Ivoire.\(^{15}\) Small-scale and micro-enterprises account for about 16 percent of the region's employment, while modern wage employment covers just 6 percent (World Bank, 1989d: 41). The share of agricultural employment has fallen since the 1960s reflecting a process of structural transformation. But the shift of labor out of agriculture has been less than that in either Asia or Latin America, where agriculture's share is 32 percent and 66 percent respectively (ILO, 1989a: 52). Although small/micro-enterprise employment and modern wage-employment are projected to grow annually at 6 percent and 3.4 percent, respectively, against 2.5 percent for agriculture, their growth is from a much smaller base than agriculture.\(^{16}\) Based on current predictions, agriculture's employment share will not fall to the Asian level until early in the next century (World Bank, 1989d: 41).

11.81 These are medium- to long-term trends. In the short-term, the adjustments caused in the employment structure by recent shocks and policy responses have raised agricultural employment growth above the underlying trend level. Micro-enterprise employment (and informal service employment) have also risen above the trend. Both of these employment adjustments are responses to the depression of formal-sector wage employment. The latter has been particularly affected by foreign exchange shortages in industry, the inputs of which are very import-intensive. And the withdrawal of subsidies from loss-making public enterprises, combined with a reduction in the protection of industry, have contributed to labor shakeout. Reductions in public employment — the main form of modern wage employment in most countries — have been extensive. Informal employment sources have therefore tended to grow, although much of the labor in this sector in urban areas is underemployed.

11.82 It is important that policy reforms maximize employment benefits in agriculture and micro-enterprises, particularly for the chronically poor who are overwhelmingly found in these activities. This section focuses on these issues for the self-employed. The next section discusses in further detail how wage-employment might be encouraged further, especially in the modern sector.

Agricultural self-employment

11.83 Agricultural performance is disappointing in Africa. In Sub-Saharan Africa as a whole, production has grown at negative per capita rates for many years, and foreign food dependency has increased. African agricultural exports have grown at an annual rate of 0.9% between 1982 and 1987 compared to 7.4% for Asia (FAO data), and it is well-known that Africa's world market shares for major export commodities have declined in the past 20 years. Agriculture's potential contribution to development and poverty alleviation is far from being realized in many African countries.

11.84 While the causes of Africa's agricultural decline are complex, there is wide agreement that they include inadequate price and institutional policies of the kind which structural adjustment programs seek to correct. Agriculture is the main sector producing tradables in most African economies — in the form of export crops and food commodities for import substitution. (The degree to which food crops are tradable depends on transport costs between points of production and the market.) "Urban-biased" economic policies aiming to promote industrial import-substitution through trade restrictions tend to discriminate against agriculture by "closing" the national economy and raising the price of non-tradables relative to that of tradables (an appreciation of the real exchange rate). Indirect agricultural taxation associated with overvalued exchange rates in Africa (as elsewhere) has often been accompanied by high levels of direct taxation in the form of export levies and monopolistic, state-con-
trolled food procurement. The disincentive effects associated with these price policies have been reinforced by the low priority accorded agriculture in public investment policies, particularly in the areas of transport, appropriate-scale irrigation, and agricultural research and extension.

11.85 During the 1980s the effect of trade and macro-economic policies on agricultural incentives and private agricultural investment behavior has been studied in depth for some 25 countries in Africa, Asia and Latin America (Krueger, Schiff and Valdes, 1988). It is clear that these policies, which, \textit{inter alia}, determine the level of the real exchange rate, play a major role in determining the profitability of farming relative to non-agricultural activities. The negative impact of “closed-economy” trade and exchange rate policies on agricultural incentives has in many countries been found to outweigh the effect of selective sector- and crop-specific promotional policies, such as input subsidies.

11.86 Adjustment, as described elsewhere in this volume, aims to depreciate the real exchange rate through reducing import restrictions, nominal devaluation, and reducing inflation. Adjustment is, therefore, a necessary condition for the reversal of the process of agricultural decline referred to above, as long as an adequate share of devaluation-related price gains is passed on to farmers. However, given the structural rigidities which characterize African agriculture, real exchange rate reform alone will not suffice. It must be accompanied by appropriate public investment in agriculture and the development of institutions capable of serving the needs of rural people in the areas of input distribution, product marketing and social services — these providing an ‘enabling environment’ (World Bank, 1989d). Long-run consistency in macro-economic management and inflation control is essential to encourage private investment in agriculture and help raise the aggregate supply response.

11.87 Price incentives for agriculture appear to have improved in Sub-Saharan Africa during the second half of the 1980s. Countries undergoing macro-economic reform have devalued their currencies substantially, and these nominal devaluations have proved effective. The real effective exchange rate for Sub-Saharan Africa has declined by about 20 percent in the second half of the 1980s (Jaeger and Humphreys, 1988). Agriculture is a slow-growing sector, and it is too early for a full assessment of the production response to improved incentives. In a preliminary analysis of the effect of adjustment on agriculture in Africa, Cleaver (1988: para. 44ff.) found that aggregate agricultural production in adjusting countries “performs significantly better than in countries not in adjustment”, but even in adjusting countries agricultural production growth has not (yet) caught up with population growth. Moreover, food production responds more slowly to adjustment than cash crop harvests. While price improvements, as stated above, are far from sufficient to invigorate African agriculture, Balassa’s (1986b) findings, which document a strong association between the real exchange rate and agricultural exports for Sub-Saharan Africa, are noteworthy. The fact that, in the short run, food production recovery lags behind that of export crops may be explained (at least in part) by reductions in demand arising from real wage declines associated with devaluation. If so, targeted food subsidies on domestically produced staples would not only strengthen demand and improve nutrition, but help sustain production incentives.

11.88 The effect of devaluation and trade liberalization on net sellers of agricultural commodities would generally be expected to be positive, not only because of the attendant price improvements, but also because of the reduction of the tax implicit in the exchange rate regime when farmers are forced to sell at an official, overvalued rate, while buying consumer goods and inputs at prices reflecting dearer parallel market rates. Trade liberalization can be expected to lead to an increase in the availability of consumer or “incentive” goods, and thus a higher supply response (Bevan et al., 1989, show that rationing of consumer goods severely constrains peasant labor supply). It is true that producers are negatively affected by devaluation-induced increases in the cost of imported inputs. But against this should be set the cost of overvaluation, including long-run resource misallocations and shortages of consumer goods and inputs resulting from chronic foreign exchange shortages. Because of the low import-content of their input mix, peasant farmers (who make up the bulk of Africa’s rural population) would seem to benefit disproportionately from devaluation relative to larger farmers. On the other hand, risk-averse producers may perceive increases in the prices of purchased inputs as increasing the risk o
tions capable of enhancing productivity. This would, however, appear to be the case only where macro-economic adjustment does not translate into real devaluation.

Enhancing the welfare of the agricultural poor

11.89 While there are strong reasons to believe that most of the rural poor will benefit from the policy reforms under an adjustment program, this is not necessarily and always the case. To design appropriate policy interventions for groups which do not gain from adjustment, it is essential first to understand why they are bypassed in this way. We shall consider three broad cases here: first, when poor groups have insufficient access to productive assets and infrastructure; second, when marketing imperfections distort the price signals of adjustment; and finally, when poor groups fail to switch into high-return activities.

11.90 The most serious problem encountered in assisting poor rural groups arises from inadequate holdings of productive assets. Securing the claims to ownership that poor people have over their assets is an important first step to ensuring that poorer rural groups benefit from an adjustment program (Chambers, 1988: 3). Land rights are often tenuous in customary areas, and the poor frequently have few channels for redressing their grievances. Extending property rights will raise their incentives to maintain and improve those assets. When land tenure interventions are made, care must be taken to protect the traditional rights of women to cultivate land for food. Such measures in the past have often designated men in the household as title holders, thus weakening the claims of women. This also puts child nutrition at risk if the women of the household are the main providers. Côte d'Ivoire, Ethiopia, Kenya and Zimbabwe have now given women the right to inherit and own property (World Bank, 1986d: 40).

11.91 Raising the access of the poor to good-quality land is an important second step. Although low population densities suggest that Africa is land-abundant (compared to South Asia, for example), much unused land cannot yield even a subsistence living without major investments. Competition for good-quality land is increasing in many countries. The FAO estimates that only 30 percent of the labor force lives in countries which have unused land upon which yields could equal those on land already cultivated (Higgins et al, 1982). In these cases it may be feasible to make it available to rural target groups without the necessity of large investments. The important target groups will be found not only among the rural poor, but also among the urban poor who can be resettled.

11.92 Unused land held under communal and traditional titles may provide the first source. However, intervening in communal tenure systems to create rights for target groups can be difficult to achieve, and politically hazardous for governments (Feder and Noronha, 1987). The target group may be outsiders to the local community where the unused land is located, or they may suffer from cultural and gender discrimination within the community. Communities are increasingly placing restrictions on the settlement of outsiders. For example in some areas of Ghana and Cameroon outsiders are not allowed to plant cash crops (Feder and Noronha, 1987: 154). Moreover, the rights of the target group have to be secured in some way — through the grant of legal title, for example — and compensation perhaps paid to others. Alternatively it may be possible to transfer unused land held under legal title to the target group (for example that held by modern estates). In Zimbabwe substantial amounts of land have been redistributed from large commercial farms to smallholders.

11.93 Land reforms have not in general been associated with adjustment lending because their time frame has usually been longer than the adjustment program. An exception is the incorporation in SAL agreements with Kenya, with the intention of giving land rights to squatters. And similar measures have been undertaken in Asia in association with adjustment lending (see Demery and Addison, 1987b for a review). Agricultural sector loans by multilateral and bilateral donors can provide one vehicle for this purpose.

11.94 Improving the access of poor groups to infrastructure can be as beneficial in many cases as increasing their productive assets. Infrastructure investments often bypass areas containing high concentrations of poor people. This raises their production costs, and acts as a barrier to gains from greater specialization. For example while adjustment programs in Ghana and Kenya have sent out clear signals for the expansion of tradable activities, many of the poorest farmers have faced difficulties in achieving this because of their location (Heller et al, 1988: 20). In making new infrastru-
tuctwuanesmnts, policy-makers need to give more weight to actions which assist the poor. In many areas transport infrastructure has broken down, so that some local markets are poorly integrated with the national market, leading to large regional price differences (Ahmed and Rustagi, 1987: 109). In designing a program of infrastructure rehabilitation, greater priority for areas ill-served by transport infrastructure, but with a high concentration of poor people, may be called for.

11.95 A second set of issues is raised when the failure of poor groups to benefit from adjustment arises from the weakening of price signals. Many of these have already been discussed under our consideration of the effects of devaluation. In cases when this is due to weak marketing structures, the terms of trade facing poor farmers may be raised through improving the efficiency of official marketing organizations. In Asia, for example, 75-90 percent of the consumer price of food grains is paid to the farmer, while in Africa the proportion is only 35-60 percent (Ahmed and Rustagi, 1987: 115). Nearly 30 percent of the difference in margins is due to the lower efficiency of African marketing organizations. In many countries the growth of marketing costs has been as important as currency overvaluation in causing low producer prices (see Harvey, 1988: 221 on Tanzania and Zambia, for example). Marketing reforms are now benefiting poor farmers. In Mali, for instance, a restructuring of the marketing system has shifted output and input prices in favor of farmers (Tuinenburg, 1987: 503). Improvements in the efficiency of marketing organizations can reduce the conflict of interest that exists between poor food producers and poor consumers over food prices. One study found that, for a sample of African countries, reducing the marketing margin by 25 percent would result in a 49 percent increase in farm prices and a 13 percent fall in food prices, given reasonable assumptions about demand and supply elasticities (Ahmed and Rustagi, 1987).

11.96 Even with marketing and infrastructure improvements, some poverty groups may still have imperfect market access (due for instance to private and public monopolies in marketing in remote regions). Their terms of trade will thereby benefit less from adjustment than the average. Further deregulation may be warranted, if for example regulations block greater competition in marketing structures. But this may not be enough for areas with special difficulties. In this case the needs of the poverty target group may warrant the establishment of a special component of the official marketing system (perhaps with some explicit subsidy). Alternatively, the provision of resources and assistance to the target group itself may allow them to reduce their marketing problems. Women farmers may receive lower prices than their male counterparts because of poor market access, and can thus merit special help (Henn, 1983: 1050). For example the ILO is assisting women's cooperatives in the Gambia to market food crops, particularly from remoter rural areas.

11.97 Finally, it is possible that some poor groups fail to benefit from adjustment simply because they do not switch production towards high-return activities. This may arise initially from a perception lag — farmers may take time to observe relative price changes, and to expect them to continue. Or the failure to change output patterns may be more deep-seated, arising from either ecological constraints or risk aversion. The participation of poor households in the most profitable cash crops is usually below average. Such participation is a strong determinant of income differences across households in most countries. In Tanzania, for example, the income of the poorest 50 percent of the village studied by Collier et al (1986: 75) were dependent on subsistence crops for 70 percent of their income — this is double the share for the better-off half. In Côte d'Ivoire approximately 44 percent of the rural poor cultivate cocoa or coffee, compared to 65 percent of the rural population as a whole (Glewwe and de Tray, 1987: 20). In Kenya the probability of a household being poor falls if it grows tea and coffee — the main export crops (Greer and Thorbecke, 1986). Although cotton is mainly grown by poor households in Côte d'Ivoire, their participation in other, more profitable crops, is lower (Glewwe and de Tray, 1987: 14). Overall, female-headed households are less likely to cultivate cash crops because the allocation of the necessary land, credit and inputs does not favor women. Altering the product-mix of female target groups will necessitate interventions in the supply of factors of production to them.

11.98 In summary, raising cash-cropping by farmers offers an important way in which their benefits from adjustment and growth can be increased. In some cases the investments in infra-
structure and the improvements in marketing which have been discussed may be adequate enough for target groups to raise their incomes sufficiently. In such instances, policy interventions must clearly be directed at the micro level. In other cases a more comprehensive package of measures involving marketing and infrastructural services may be needed. Higher cash-cropping may be dependent on access to productive assets being increased in the ways discussed previously.

11.99 A major constraint on expanding the incomes of target groups in this way is the ecology of the country concerned. This plays a large part in determining whether farmers in a given region are able to cultivate the most profitable cash crops. For instance in many West African countries there is a marked division between ecological regions in food production and export crop production. In Ghana, for example, cocoa is cultivated in the coastal region, while farmers in the northern savanna derive most of their income from domestic food production. In Côte d'Ivoire maize is the dominant crop in the savanna region and while cotton is an important cash crop, cocoa and coffee are concentrated in other regions. Consequently, it may not be possible to help a poverty target group in a particular region through the expansion of particular cash crops because of ecological constraints leading to prohibitive project costs. In such cases assisting their entry into higher return activities could necessitate relocation, and issues of mobility are discussed later in this section.

11.100 Some countries have already shown how participation in the growth process can be raised in a relatively short period of time, provided that comprehensive packages of assistance are employed. To take only one example, in Zimbabwe smallholders supplied only 5 percent of marketed maize in 1980. But the subsequent targeting of marketing and support services to them, together with favorable price policies, allowed them to raise their share to 30 percent by 1983 (Mellor, Delgado and Bacide, 1987: 353). Given the right kind of sectoral interventions, and an appropriate policy environment, similar participatory growth will become feasible in other countries.

Micro-enterprise self-employment

11.101 Recent years have seen a reversal in official attitudes to the informal sector, and a number of strategies have been advanced to improve the performance and profitability of the micro-enterprises within the sector (ILO, 1989b: 65). These strategies focus on training, credit, and the provision of supporting infrastructure. In particular, licensing and registration formalities may be unduly restrictive of small business development. In many countries they are extensively evaded and are thus of little merit. But operating illegally makes it more difficult for small entrepreneurs to obtain formal credit and to use public facilities. These points also apply to formalities applied, notably to women (such as requiring a male relative's signature on business licenses etc). Adjustment offers an opportunity to review these restrictions, especially since a thriving business sector is crucial to tradables expansion.

11.102 Urban informal employment growth has been rapid over the 1980s, although many in the sector are underemployed since ease of entry into the lowest grade occupations has provided a last resort for those displaced from the modern sector. The effect of inappropriate policies on rural livelihoods has also swelled the numbers of informal workers. As a result, the profits of informal micro-enterprises have declined in free-entry occupations, although in activities where substantial capital is required operating margins have probably been better.

11.103 Under adjustment the prospects for earnings from urban micro-enterprise may be dim. First, workers displaced by the liberalization of industry and the contraction of public employment seek out urban informal employment. Using their severance payments for capital investments, the returns in the more advanced forms of micro-enterprise can be expected to fall. Second, micro-enterprises producing non-tradables will be unfavorably affected (mainly in services). Third, if adjustment depresses urban incomes, then the demand for informal products will fall. Fourth, as modern industries recover their capacity utilization some consumers will switch back to them since their products are preferred. Finally, some micro-enterprises have traded in scarce commodities before adjustment, and policy reforms will reduce incomes from rent-seeking.

11.104 While urban informal employment and earnings may contract under adjustment, the prospects for rural micro-enterprises are brighter. As policy distortions against agriculture are cor-
rected, the demand for goods and services by farmers will rise as their incomes increase. Much of this will be met by rural-based micro-enterprises, since farms generally require local suppliers to maintain farm equipment, for example. Similarly, much construction work requires knowledge of local materials and requirements. In Africa each dollar increase in agricultural income generates about $0.50 in rural non-farm earnings (Haggblade and Hazell, 1988: 10). Agricultural growth in Asia has been sustained for long enough periods to show the kind of intensive non-farm rural economy which can develop (Mellor, 1985). Asian farmers typically spend a large proportion of their additional income on locally produced goods and services, including textiles, transportation, housing and health services (Hazell and Roell, 1983). Similar expansion can be expected in Africa, as households who operate micro-enterprises as sidelines to farming increasingly specialize as demand grows. In some countries the expansion of such off-farm employment can be expected to reduce rural poverty since poverty groups engage disproportionately in this activity. But in other countries non-farm income is disproportionately concentrated among better-off households. Off-farm employment is also a major income source for women who dominate “traditional” female activities such as food preparation (Haggblade et al, 1988).

The opportunities for informal manufacturers in towns to supply the increase in rural demand will be limited in many cases to areas in the immediate vicinity of towns. The improvement of transport networks under adjustment may give greater scope than before, but the nature of many of the goods and services needed by farmers will probably preclude informal urban suppliers. High transport costs to remote regions also make it difficult for urban suppliers to compete against local producers. Thus, if urban informal producers are to gain the higher returns offered by the rural market, they will need to migrate, and assistance for their mobility can be considered. For many who have lost their access to traditional lands, such non-farm activity may offer their best means of returning to the rural sector. Second, because demand for informal products will shift towards rural micro-enterprises, assistance to the informal sector in general requires review to ensure that strategies are adapted to meet the needs of rural micro-enterprises.

Policies towards wage-employment

Wage and employment outcomes under adjustment

11.106 Current policy reforms in Africa are aimed at significantly altering the structure of production and consumption, and thereby the use of productive factors. The impact of these processes on wage-earners partly depends, therefore, on the size and character of the resource re-allocations required. In the African context the shift is most often from non-tradables, such as urban services and quota-protected industries, to tradables such as export and food crops together with competitive manufactures. Over the longer term, the outcome for wage-employment and earnings depends on the relative labor-intensities of the expanding versus contracting sectors, and whether the structural shift in production takes place in the context of overall output growth (as discussed in Part I). If structural change causes a fall in the overall labor intensity of production, and GDP is growing only slowly, downward pressure on wages is inevitable (if labor absorption is to be maintained). But with strong GDP growth, even when contracting sectors are more labor-intensive than expanding sectors, the negative (static) effect on labor demand may be outweighed by the dynamic benefits.

11.107 In Africa, exportables and unprotected importables are generally more labor-intensive than non-tradables. While the latter category includes labor-intensive activities such as service employment, it also includes industries which are capital-intensive because of previous distorting policies. Since agriculture is the dominant tradable in most countries, and since it is very labor-intensive in Africa, a rise in the average labor-intensity of production can therefore be expected to result from adjustment.

11.108 However, these orthodox expectations are derived under the assumption of full employment. Since in Africa unemployment is high — averaging over 15 percent across the region (ILO, 1989b: 17) — real wage improvements may not result, or may be slow in materializing. Unemployment in the African labor market arises from a mix of factors, including: the pre-adjustment situation of foreign-exchange constrained industries; short-term labor-market responses to adjustment in some countries (see below); structural employment problems that have long afflicted the region; and high population growth.
rates. Real wages will improve at a faster rate if adjustment promotes output growth, not just a change in its structure. An emphasis on growth and efficiency in program design is thus crucial to prospects for wage-earners.

11.109 Design of the macro-strategy also affects the short-run outcome for real wages — in particular the relative importance attached to demand restraint (emphasized in stabilization programs) versus supply expansion (emphasized in structural adjustment). Although structural adjustment may cause some frictional unemployment through market liberalization, its emphasis on growth is more conducive to employment than stabilization. Under the latter, domestic demand falls when monetary and fiscal restraints are applied, non-tradables production contracts, and tradables production expands. But in the short term, non-tradables usually contract faster than tradables expand. Labor demand therefore weakens, putting downward pressure on wages (even if long-term wage prospects are good).

11.110 Whether wages are flexible or not can also affect the short-term employment effects of adjustment. With real wage rigidity, some workers may protect their living standards at the cost of employment for others, whereas a fall in wages would allow the employment of the latter despite weakened economic activity. In general the current weakness of organized labor in Africa prevents much of the real-wage-rigidity experienced in semi-industrialized and industrialized countries. Real wages have fallen considerably in Africa — both before and during adjustment in many countries (Jamal and Weeks, 1988). Indeed for unskilled labor, real wages may be close to a level providing only a minimum nutritional level. In such situations, further wage declines could not be expected, and would not therefore perform their function of equilibrating the labor market (as discussed in Part I).

11.111 In cases where there is scope for wage flexibility, a government may call for temporary wage restraint both to encourage a rise in tradable production and to maintain employment. Whether such restraint can be successfully negotiated with labor depends on how far the latter perceives the situation to be fair. Governments which attempt to spread adjustment costs equitably (through, for example, economizing on inessential public expenditures in order to protect social services) will have more credibility with labor than those that act otherwise. Those which resort to limiting the rights of workers (such as freedom of association and collective bargaining) are likely to lose public confidence in the integrity of the adjustment program itself. There are a number of examples of successful incomes policies built through dialogue between government, labor and firms (Kyloh, 1989). In such situations workers effectively trade present wage benefits for future employment and wage growth. And specialized agencies such as the ILO have much experience in assisting the promotion of tripartite dialogue (ILO, 1987: 55).

Improving the functioning of labor markets

11.112 The labor market is a key component of the meso-economy. As such its performance is a critical determinant of how the costs and benefits of adjustment are distributed across society. Yet this performance is often far from satisfactory. Both inappropriate government interventions and the workings of the market itself can cause inefficiencies. Unemployment may exist because of government regulations on hiring practices for example, or because the qualities of some types of workers are not effectively signaled to employers by the market. Consequently, policy choices at the level of the macro-strategy are necessary, but not sufficient, for maximizing wage-employment growth. Complementary actions at the level of the meso-economy, particularly in the labor market, are also needed.

11.113 Discrimination by employers on the basis of gender or culture is the most important type of 'endogenous' labor market inefficiency. Governments can prohibit such discrimination through legislation, and this can have substantial benefits, if properly policed. Regulation is most effective in the public sector, but less so among private enterprises, especially where labor recruitment is informal. Governments can begin by reviewing their own hiring practices for discrimination. Action against discrimination becomes even more important during adjustment, since the disadvantaged are often the first to be dismissed and the last to be hired. However, while inappropriate regulations can be eliminated, often at the stroke of a pen, cultural prejudices are much more persistent (Serageldin, 1989: 30). The latter may render well-meaning legislation ineffective, or even counter-productive. Ultimately interventions in the labor market may be less successful than empowering the disadvantaged through
other means, such as improved education and asset-distributions. Aside from enhancing their self-employment, such assistance may, through improving their human capital, weaken prejudices against them in the labor market. 11.114 In general, market inefficiencies caused by governments are easier to rectify than those inherent in the market itself. Obviously government interventions are prime candidates for review at times of adjustment. Regulations on employment practices, working conditions and minimum wages should be assessed to establish whether they are having their desired benefits. Such regulations may improve worker ‘quality’, and thereby productivity and employment. They may effectively correct employment practices which the market is too weak to rectify automatically. Or they may unduly encourage capital-intensity, and harm employment (Krueger, 1988: 365). Alternatively, they may have unintended effects, such as limiting the job prospects of young people. Because the links between such regulations and the performance of both workers and firms is complex, they should be reviewed on a case by case basis (ILO, 1989b: 44). While wage levels are rightly seen as the key measure of labor welfare, working conditions, such as health and safety, are also an important component in their own right. 11.115 There are strongly differing opinions about minimum wages. One view holds that formal-sector employment will be reduced if employers are required to set wages above market clearing levels. The displaced labor either becomes unemployed or, more likely, is absorbed into the informal sector (where minimum wages cannot be enforced). Informal wage-levels are thus reduced. Wage-dispersion, along with inequality, increases, and a dualistic pattern of employment is perpetuated (which in turn encourages rural-to-urban migration). The formal sector wage-differential between skilled and unskilled workers is reduced, and with it the incentive to accumulate human capital (Psacharopoulos, 1986: 54). The alternative view defends minimum-wages on two grounds. First, minimum wages can increase employment and output through raising labor productivity. This may be important where worker efficiency is constrained by malnutrition and ill-health. Rather than diminishing profitability, minimum wages raise it. The requirement for wage legislation, presumably, is based on imperfect perception on the part of employers. Second, it is well-known that when there is only one employer (a ‘monopsonist’) in the market, both employment and the wage level are set below their competitive market levels (Brown et al, 1982). Introducing a minimum-wage (equal to the competitive market level) will raise employment, without affecting output. 11.116 The real value of minimum wages has in fact fallen drastically across Africa, as the minimum has not been adjusted in line with inflation. In some countries therefore, market-wages may lie above the minimum, thus making the latter irrelevant at present. But in countries where minimum-wages do ‘bind’ should they be retained, raised further, or removed? The case for removing them rests on the view that minimum wages exacerbate the adverse wage and employment effects of adjustment. As non-tradables contract (either because of deflation or devaluation or both) there is no possibility of some employees being retained by downward money wage-adjustments. They are displaced into the informal sector, which forces informal wages down. Those who remain employed in formal non-tradables thus protect their wages at the cost of depressing the living standards of informal workers, many of whom are poor (as discussed in Part I). Removing the minimum wage during adjustment would raise formal employment, and thus reduce poverty. 11.117 When the minimum-wage has raised productivity among competitive firms, its removal may, under certain circumstances, leave employment largely unaffected. This occurs when it is not profitable for employers to reduce the wage they pay if the legal minimum is removed. Removing the minimum-wage in these circumstances will not affect the number of jobs lost from the formal non-tradables sector, nor the extent to which the informal wage falls. But if during adjustment the minimum-wage is removed from a monopsonist in non-tradables, employment will contract further than if it is retained. The ‘monopsonist’ argument has more validity, but a limited application. Estates in the agricultural sector come nearest to being monopsonists in the African context, especially where smallholder labor markets are thin. A minimum-wage for the estate sector may be justified in some cases.
Public sector employment policy

11.118 The main burden of wage restraint tends to fall on public employees, reflecting a need both to curtail public expenditures and to transfer resources out of non-tradables. Although public-sector wage freezes have featured in donor-assisted programs, they have also occurred as the domestic revenue base has contracted during earlier recession. For these reasons, the scope for further reductions in public expenditures through public wage-freezes may be limited. Indeed, in many cases remunerations have fallen so low that they neither keep low-paid workers out of poverty nor attract and retain skilled manpower. The problems of absenteeism, demoralization and corruption affecting many public administrations are familiar and need no reiteration here. These limit the capacities of African governments to carry out key policy and management tasks necessary for successful adjustment programs (Nunberg, 1988). Hence there is not only a “social dimension”, but an important institutional efficiency problem as well.

11.119 Given the need to redirect public expenditures to key investments and services that support the adjustment effort, it is almost impossible to envisage a large improvement in the remunerations of all public employees. The public wage bill is very high in some countries, and will need to be reduced further if priority investments are to take place. In doing this, care is needed not to erode public-sector wage differentials, in order to preserve incentives and retain highly skilled employees (Klitgaard, 1989). Comprehensive restructuring of public employment has been underway throughout Africa since the mid-1980s and earlier. The introduction of performance-pay, linked to improvements in government revenue collection and the efficiency of government programs, can be an appropriate solution to the problem of keeping salary levels within bounds while at the same time maintaining incentives. Revenue-raising agencies are prime candidates because performance in them is easiest to measure. For example, in Bolivia the pay of revenue officers is now related to the amount of revenue collected, and a large increase in revenues has resulted. In addition there are cases where sharing user-charges with employees has been done (e.g., Nigeria). On the expenditure side, railway, highway and ports authorities in Ghana have, with WFP assistance, linked subsidized food to measurable results for each worker and for the corporations as a whole (Klitgaard, 1989: 452).

Public works programs

11.120 At their best, public works programs (PWPs) provide significant assistance (in either cash or food) to the underemployed, while creating infrastructure of lasting benefit. They are now being adapted to help poor groups cope with the impact of adverse policy reforms (see for example Republic of Ghana, 1987: 5). Given their micro-orientation they can be tailored to the problems of specific poverty groups whose employment problems are insufficiently resolved by actions at the macro- and meso-policy levels. Well-designed PWPs can impart major improvements in human capital, both through improved nutrition and on-the-job training. The general improvement in labor quality has important spin-offs for the profitability of the household’s own activities (which are further enhanced if program participants are the main beneficiaries of the infrastructure created). The time-profile of household activities can also be favorably affected: for instance upgrading a road may reduce travel time, thereby releasing more time for productive employment and child-care. In so far as PWPs contribute to raising production (especially of tradables) they assist in meeting adjustment objectives.

11.121 Unfortunately, PWPs do not provide a lasting solution to groups facing poor long-term employment prospects. PWPs, while they provide a useful income supplement, are no substitute for a comprehensive program of assistance which tackles the root of the poverty problem. In such cases, if nothing else is done, PWPs can end up making large demands on public resources indefinitely, with no significant improvements. For instance, in situations where policy reforms are expected to reduce the growth of urban employment over the long term, the best solution is to help the urban poor into rural employment through rural projects and mobility assistance. For such groups, PWPs should be only one component of the strategy.

11.122 There are a number of other important issues relating to the design of PWPs. First, in practice better-off groups often benefit the most from the new infrastructure (since it raises the returns on productive assets, most of which are owned by the better-off), and the gains to the poorest are confined to the income earned in
their construction phase. While appropriate project selection may overcome this, it may often be unavoidable until complementary programs have improved the asset base of the poor. This also implies, however, that the better-off would bear the brunt of user charges to recoup the PWP's costs. Such revenues can be used to finance further PWPs, and to cover infrastructure maintenance, thus continuing employment benefits to the poor.

11.123 A second issue of recurrent concern is that poor project design, makeshift administrative arrangements and lax project supervision have too often contributed to low cost-effectiveness among PWPs (Guha, 1986 and World Bank, 1986e). On average, non-labor costs account for higher shares of total costs in African PWPs than in Asian PWPs (Stewart, 1987b: 202). In Latin America, PWPs have addressed adjustment-related unemployment, but many of these projects have involved activities with low returns for either the adjustment objective or social goals. In such cases the government is effectively financing a re-expansion of unproductive non-tradables. An 'unconditional' transfer system would be more cost-effective if projects with reasonable returns cannot be found.

11.124 A third important 'design' issue concerns the level at which the PWP wage (cash or kind) should be set. The higher the wage the greater the benefit to the participants, but setting the wage too close to the market wage may discourage participants from seeking private-sector employment. Payments below the market wage effectively target the program to those who need it most (World Bank, 1986e: 38). This means that if the wage has fallen under adjustment, the corresponding PWP wage may be low, and the PWP income supplement to participants will not reduce their poverty sufficiently. If it is thought that the nature of the work will deter those outside the target group from participating, then a market-level wage may be appropriate (Thomas, 1986, Kinsey, 1987). But otherwise the PWP will be limited as an anti-poverty measure. Finally, PWPs need to be designed in such a way that the very poorest can participate. The latter, because of their malnutrition, may be unable to undertake physically demanding work unless the PWP is coordinated with suitable nutrition interventions and skill enhancement as well. Similarly, PWPs need to be targeted to the needs of women, whose household responsibilities often reduce their participation compared to men. Complementary actions such as the provision of childcare facilities are required.

Training and retraining

11.125 As enterprises adjust their product lines to new policy incentives, they will undertake some retraining of employees. But government sponsorship of vocational training is also needed to meet the demands of employers, especially in export sectors. Such schemes should be protected alongside basic education in the public finance strategy. Training systems at present are often of low quality, of limited coverage, and have low female participation rates. Their improvement is one of the prerequisites for improving the limited employment prospects of young people. Programs should move away from the traditional focus on preparing the young for wage employment, and towards promoting their skills for self-employment, for example, through in-service training (ILO, 1987). Curricula need to be orientated towards the skills required by the priority sectors under adjustment. For example, employment in labor-intensive clothing businesses has risen in several countries (Madagascar and Mauritius, for instance) in response to policy reforms. To ensure their rapid growth and to encourage the production of high value-added items, improvement in labor skills is essential.

11.126 A number of countries now have retraining schemes in operation, or in the pipeline (including Ghana, Guinea-Bissau, Senegal and Madagascar). These are mainly for retrenched public employees, although they should also include those affected by the liberalization of private industries. Retraining is often linked to providing other support such as credit. Early implementation is important if such schemes are to mitigate adjustments effects. Closer coordination is needed between the designers of policy reforms and training managers if unexpected demand is not to overwhelm the training institutes.
SDA Policy Agenda for Country Activities

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and approach of activities in each component would also be expected to change over time.

12.3 This implies that the SDA policy agenda must be implemented through a modular approach. The various modules of the SDA program may be implemented through a variety of instruments, including structural adjustment loans (SALs), sectoral adjustment loans (SECALs), investment projects, technical assistance projects, or self-standing projects combining a social action program with key institutional development support. The task at hand is to achieve the best fit between the country's poverty reduction strategy (which, in most cases, is yet to be articulated) and the portfolio of operational instruments through which the strategy can take hold.

Improved macro and sectoral policy management

12.4 SDA assistance for improved policy management concentrates on three areas of macro and sectoral policy formulation and analysis: (i) the incorporation of social dimensions in macro policy analysis; (ii) sectoral and meso-level analysis; and (iii) public finance strategies.

Incorporating social indicators in macro policy analysis

12.5 One of the lessons of recent adjustment experiences is that the available data and policy tools have been insufficient to incorporate effectively the social dimensions into macro policy formulation. Consideration of social dimensions has been a residual activity, undertaken once the traditional scope of macro-economic policies had been decided upon. Whereas nearly all African governments have used various analytical methods for policy planning and evaluation, the existing techniques have generally not been suited to deriving the poverty consequences of policy actions. This applies with equal force to the current techniques employed by donor agencies. The policy analytic requirements for any systematic understanding of the social effects of macro policy are basically two-fold. First, the analysis must have an economy-wide perspective if it is to properly track the application of macro instruments, and even to fully understand the effects of sectoral policies. Second, the techniques must be able to trace changes in household living standards over time, particularly changes in income and expenditure. At the same time, policy formulation and analysis for SDA purposes should ideally embrace the three levels of economic activity described above (macro-meso-micro), in order to give further policy insight into how macro policy is transmitted to the household level through the intermediate meso-level.

12.6 The SDA perspective is that governments need to give careful consideration to how they can systematically build up their policy analytic capability by ensuring that — whatever the analytical techniques selected — they are actually utilized in the policy making process. As country policy analysis becomes more refined and capable of incorporating social concerns, it can offer a framework in which the collection, management and analysis of macro-economic, sectoral and household survey data can be integrated into a consistent whole. In turn, with better policy articulation by the government, policy dialogue between the government and the donor community will be facilitated in at least three ways:

* it permits a timely and ex ante assessment of the macro-, sectoral and household-level ramifications of the macro policies under consideration;
* it allows explicit social objectives to be built into the design of macro-economic policy packages, with the poor and vulnerable more effectively participating in the newly emerging economic environment;
* it indicates when and where the adverse effects of these policies are inescapable, so that appropriate mitigating actions can be taken over both the short and medium terms.

12.7 Needless to say, the goal of making ex ante predictions of the social effects of adjustment policy represents, for most African countries, a medium- to long-term objective, normally involving the construction and use of economy-wide modelling techniques. Individual country circumstances will decide the actual pace and kinds of analysis that are supported in participating countries. The SDA's fundamental concern is that governments begin including social considerations into the country policy-making process at the earliest stage. This may entail, at the outset, evaluation of existing data in order to provide policy makers with some initial indicators of how various socio-economic groups are faring under adjustment. In countries where simple macro-economic frameworks are used, this can include
the integration of a module to trace out the distributive and employment impacts of alternative macro-economic adjustment strategies. During the life of the SDA country project, assistance will be provided to build up the country's policy analytic capability in line with current data and institutional conditions. The emphasis will be on developing operational tools that can feed directly into the policy-making process, with the objective of making macro-economic policy design more poverty-conscious.

**Sectoral and meso-level analysis**

12.8 Adjustment programs generally involve major reforms of important economic and social sectors, many of which can have profound effects on poor and vulnerable groups. Therefore attention to macro issues alone will not be sufficient to ensure that social concerns are fully understood or incorporated into the overall policy-making framework. A clearly delineated focus on sectoral and meso issues is likewise necessary to complement macro-level analysis and to assist governments and donors in the preparation of the sector-specific program of activities. In order to add a social perspective to sectoral policy questions, more narrowly focused analysis is required on how sectoral or meso policy instruments translate macro objectives into outcomes at the household level. Such analysis cannot rely entirely on economy-wide analysis given the degree of detail often required.

12.9 Factor and product markets — which are important meso conduits of macro policy — are examples of sectoral issues where more detailed information is normally required for policy-making purposes. In the long term, markets may function to allocate resources efficiently. However, short-term distorting factors (such as urban-biased marketing channels, differences between formal and informal markets, few reliable private sector operators, and weak institutions and infrastructure) must be sufficiently understood, so that specific corrective interventions can be put in place to offset poor market articulation. A number of Analysis Plans have been prepared under the SDA program. These are designed to provide policy makers and planners at the country level with guidelines and methodologies for determining how adjustment policies affect key sectors. They currently cover the following topics: poverty profiles, employment and earnings, smallholder farming, food security and nutrition, education, health, and the role of women. While certainly not exhaustive, these analysis plans have been chosen as representative of the kinds of generic sectoral problems requiring particular policy attention during the adjustment process.

12.10 The SDA program is also allocating funds to undertake studies at the country level which are geared to specific operational objectives. Such studies are designed to fill data gaps or examine particular subjects, before or while SDA country projects or programs are being implemented. Representative topics include analyses of urban or rural labor markets, the nature of the informal sector, cost recovery prospects within specific government programs, and the use of subsidies and other income transfers for selected socio-economic groups. Under most circumstances, these studies would be carried out under the auspices of the ministry of planning or the relevant line ministry.

**Public finance strategies**

12.11 Public finance has been one of the most visible policy elements of the adjustment process. The extreme macro-economic imbalances in which countries found themselves at the beginning of adjustment necessitated demand restraint, the core of which involved reforms in public finance on both the expenditure and revenue sides. This in turn raised concern over the need to maintain social-sector expenditures in order to protect poor and vulnerable groups who are dependent on basic services in, for example, health, education, and nutrition. A recent example is found in Cameroon, where the government decided to set targets for non-salary recurrent expenditures in basic health and education as part of its first structural adjustment program.

12.12 As an organizing framework to deal with the social expenditures issue, the SDA program is exploring with participating countries the possibility of identifying core public expenditure budgeting procedures, whose main beneficiaries are the poor who are to be protected. The idea behind the notion of core public expenditures during the course of the adjustment program is that once a government has defined the kinds of socially-oriented services it wants to protect — for example, preventative health services, primary education, targeted food-linked transfers — spe-
Specific budgeting procedures are introduced as a means to systemize the translation of these priorities into public expenditure decisions. One such system is 'program budgeting' which is designed to ensure a proper fit between expenditure categories and specific sectoral goals. In their standard format, program budgets articulate the expenditures to be committed by type of service or type of program, indicating the corresponding region, institution, and expenditure category. Once information is available about the actual users of the services, then the protection of these services for vulnerable groups is made easier. Depending on the status of development of budgetary processes in the various countries, highly simplified forms of control systems will need to be implemented to secure minimum levels of expenditures for core services. Assistance will be provided to build up a capacity in this critical area, starting with simple systems, such as program budgeting.

12.13 It must be recognized that a great deal of additional research and analysis needs to be undertaken in the complex area of public finance management during adjustment. Already, governments and donors regularly set guidelines for the allocation of government revenues across sectors and activities in order to maintain fiscal and financial responsibility within agreed adjustment objectives. Reconciling the expenditure targets with the need to protect social expenditures for target groups is now the key challenge. The SDA initiative will support research and operational efforts which can provide policy insight into various alternatives for ensuring that priority government services for the poor and vulnerable can be met through a combination of improved efficiency of delivery and administration.

Social action programs

12.14 Many of the policy instruments discussed previously are expected to benefit target groups only in the medium- to long-term. In the short run, some groups that are adversely affected by policy reforms may require direct assistance to tide them over this difficult period. On the other hand, even in the long run, some groups may not be in a position to properly respond to the opportunities presented by adjustment-led growth, and these may require more targeted support. This section therefore turns to the kinds of complementary, project-based, interventions which are designed to address the more specific needs of identifiable target groups. These interventions are grouped under the general heading of social action programs.

12.15 Social action programs can be divided into two broad types of activity:

- those designed to protect or mitigate the effects of adjustment on specific target groups;
- and those aimed at fostering greater participation by poor and vulnerable groups in the process of socio-economic development.

The first is concerned with protection or compensation, i.e., protecting the welfare and consumption levels of the target group. The second is directed towards enhancing their productive capacity, ex. improving their economic integration. The focus of attention has begun to shift from compensatory measures to a greater emphasis on expanding the economic participation of target groups. Sub-Saharan Africa does not have sufficient resources to sustain large social welfare programs over the long term, and for the immediate future the well-being of the majority of the poor will be closely linked to improvements in their productive economic activities.

12.16 The problems associated with low economic activity and poverty clearly pre-date the advent of structural adjustment lending. The conceptual point of departure, therefore, is that social action programs designed to foster productive capacity seek to overcome the remaining policy and institutional distortions which have thwarted the economic participation of the poor — distortions which may have arisen well before adjustment was initiated. In these circumstances, this category of social action program has the primary objective of helping to reorient and rehabilitate neglected infrastructure and debilitated support services, and to promote the involvement of village- and community-based institutions in more productive economic activity.

12.17 In both types of activity, there already exists valuable experience gained in designing projects which meet the two objectives of protection during the transition, and increasing the participation of the poor in the growth process. One of the first institutionalized efforts (in the African context) to address the transitional problems of poor groups, was the "Programme of Actions to Mitigate the Social Costs of Adjustment" (PAMSCAD) in Ghana. This consisted of several proposals for project intervention. Since then, a
number of countries such as Guinea, The Gambia, and Senegal have developed compensatory actions for laid-off public sector employees. Mauritania has introduced Food-For-Work programs with better targeting of food distribution to the neediest groups. Kenya is providing health services, including family planning, in the rural areas through a system of satellite facilities. Madagascar is sponsoring special work programs to provide short-term employment for dislocated workers and offering special services to rural families during the difficult pre-harvest period. 

12.18 Under the second category of social action program, The Gambia has created an operation for promoting small- and medium-size enterprises, which has a special component focusing on enterprise creation for women. In Mauritania, a similar project provides a line of credit to local artisans. Sao Tomé and Príncipe is developing a credit initiative for small farmers as well as a land distribution scheme, both as part of an improved incentive system for cocoa workers. Senegal has taken steps to ensure access for the landless to the ownership of lands becoming available under irrigation projects. Guinea is establishing an informal sector micro-credit mechanism through NGOs, as well as a project for local administrations to undertake the renovation and construction of education facilities. Cameroon is developing a social action program which includes projects in population, health, education, employment, women in development, and community development.

12.19 Based on earlier prototypes (especially the Bolivian Emergency Social Fund), Social Action Funds have been or are being established as part of SDA country projects in Guinea, Mozambique, Malawi, Somalia and Chad, which make resources available for projects proposed by local non-governmental organizations. In addition, social action interventions have been formulated or are now under consideration for primary health support in Zaire and Mozambique; family planning assistance in Zaire and Madagascar; support for rehabilitating primary education in Mozambique and Uganda; and targeted food subsidies for low-income groups in Mozambique and Malawi. Others include housing, urban and community infrastructure in Zaire and Chad; training/redeployment for redundant civil servants in Guinea Bissau, Madagascar, Zaire and Burundi; small enterprise development in Guinea Bissau, Burundi, and Uganda; and vocational training in Chad. This range of social action interventions has evolved from the prior experiences of the Bank, other donors and African governments.

**Strengthening national information systems**

12.20 The inclusion of social dimensions into the policy-making process implies the need for policy makers to obtain a clear picture of the changes occurring in various segments of the population. In order to meet this requirement, an ongoing process of planning and analysis is essential, based on a national information system that is capable of providing quantifiable measures of changes over time in key social and economic indicators for specified socio-economic groups. Even before the current concern with economic policy reform, African governments had come to recognize the institutional weaknesses and incipient stagnation of their national statistical services. The situation has been compounded by expenditure austerity in recent years which has led to the cancellation of a number of statistical and survey programs launched in the 1970s. This development has created a vicious circle where data users complain about the lack of timely and comprehensive information warranted by their analytical objectives, while statistical offices bemoan the austerity-related reduction in the breadth of data collection activities which they would like to pursue.

12.21 The analysis of macro-micro relationships requires above all household and community-level data, which explains the SDA emphasis on strengthening household survey capabilities. A detailed empirical framework has been spelled out in Part II of this volume. In collaboration with other agencies, and with this framework in mind, the SDA aims to assist participating countries in two major areas. First, technical assistance and financial support to participating countries is offered in a range of data collection and survey methodologies, primarily but not exclusively with respect to household survey techniques, in order to expand the quantity and to improve the quality and reliability of social data. Second, assistance is being provided through SDA project activities to national statistical offices for enhanced data collection and analysis to ensure the inclusion of social concerns in planning procedures at the macro-, meso- and micro-levels.

12.22 The focus of the SDA initiative on strengthening household- and community-level data col-
lection and analysis provides the foundation for a greater understanding of how micro-economic agents respond to policy changes. Equally, it is expected to lead to an improved understanding of how these micro-level responses in turn affect macro-policy outcomes. The benefits from strengthened information systems are two-fold and complementary: policy-makers concerned with social issues will have a better understanding of how macro-policies affect their areas of concern, while macro-planners gain an insight into how micro-level constraints and circumstances may thwart the pursuit of macro-targets.

Institution-building and training

12.23 The design and implementation of an adjustment program which is sensitive to social concerns places significantly greater demands on the policy-making and administrative machinery of government. The need for enhanced government capacity to carry out and monitor such programs must be recognized as one of the most crucial challenges currently facing African governments. The SDA initiative, therefore, places a great deal of emphasis on institution-building in each participating country. The core elements of capacity building efforts are training, the generation of timely information and analysis, and the promotion of communications between policy analysts, decision-makers and implementing line ministries.

SDA focus for strengthening institutional capacity

12.24 The long-term impact of the SDA initiative will ultimately be measured by its ability to help participating countries develop their own capacity to identify the poor and vulnerable during periods of adjustment, and to respond with appropriate policy and program interventions. The focus is on strengthening existing institutions through: (i) improved policy analysis and information system capabilities; (ii) reinforcement of government policy-making procedures; and (iii) expanded local group participation. These three elements are discussed below.

12.25 A strengthened capacity for policy analysis based on strengthened national information systems is required for governments. The choice of priority policy analysis themes and their translation into specific studies are clearly country-specific. However, the broad areas of concern in the SDA context are similar across Sub-Saharan Africa. As discussed earlier, they include the balance between demand contraction versus supply expansion; the poverty implications of devaluation and trade liberalization; alternative patterns of sequencing; the restructuring of public spending; the review of core expenditures in both the social and economic sectors which benefit the poor; and sectoral studies.

12.26 Improved data collection and policy analysis would be of no avail, if the information so obtained is not effectively combined with improved government policy-making procedures. Through data collection and policy analysis are only helpful operationally if they are employed in an appropriate institutional setting, in which potential users of the results are associated with the process of policy formulation and program design. While 'sensitization' of key policy makers to social dimensions is the crucial ingredient, one must recognize that there are limits to which this process can be planned in a generic sense. As a means to start this process, the SDA program seeks to establish in each country high-level "groupes de réflexion," chaired when possible at the ministerial level, such as the Minister of Planning. Among other things, such groupings will bring together data producers and users. These inter-agency committees are concerned with overall poverty alleviating strategies, and should review, in both ex ante and ex post senses, the social dimensions of major economic policies and public resource-allocation decisions. They serve also to strengthen interactions between the various ministries involved in structural adjustment and its social dimensions.

12.27 In Mozambique, for example, the Inter-ministerial Commission on the Social Impact of the Economic Rehabilitation Program has been created by the government and supported by the SDA. Among other outputs, this Commission has produced a detailed Poverty Assessment Paper. The process of writing this paper was characterized by intense scrutiny of available macro- and sector-level data, and a search for effective project- and policy-based poverty alleviating interventions in the purview of the ministries associated with the effort. Likewise, the SDA country project for Cameroon includes a Technical Coordinating Commission (TCC), chaired by a project administrator who reports directly to the Minister of Planning and Regional Development. The TCC is composed of task
managers for all the project sub-components — from six ministries and two other agencies — together with representatives from the Presidency, the Ministries of Finance, and of Territorial Administration, and the Caisse Autonome d'Amortissement.

12.28 *Local group participation* plays a critical role in development policy, governing particularly how its benefits are distributed across society. The term "participation", as used here, refers to the active involvement of a given population in the identification, design and implementation of policies and programs which are intended for its benefit. Such participation is essential not only to understand the needs of the population but also to ensure that the programs and projects will be accepted by the population, resulting in a higher likelihood of success and sustainability over the long term. The SDA program is exploring ways to associate more closely the representatives of NGOs, private associations, the academic community, and sections of the private sector with the planning process. In three countries, *poverty task forces* have been established, bringing together members of the governments, research institutes, NGOs, and the private sector. In Senegal, journalists have also been invited to participate. National seminars are sponsored to discuss specific aspects of project activities, such as micro-enterprise development, food security, targeting of vulnerable groups, and lowering of school fees and related educational costs.

**SDA training objectives**

12.29 Training occupies a central role in the overall objectives of the SDA and transcends all the institution-building activities discussed above. By including at the outset of each country-level project, components which develop national skills and competencies, the SDA initiative seeks to ensure the availability of qualified manpower to plan and implement social dimensions activities over the long term — beyond the life of the SDA country project itself. This objective has four major implications for the design of the overall training program. The first is that learning and skills-improvements should occur at each stage of the country project, and that significant knowledge transfer can be realized by hands-on applications. The second is that social considerations can be internalized through the support of national and regional training centers. Third, the training components are conceived to correspond with SDA's three policy objectives: the integration of socio-economic analysis into macro and sectoral policy management; the design and implementation of social action programs; and the strengthening of national statistical services. Fourth, the various training elements should be integrated in a consistent manner, from data collection to socio-economic analysis and policy design and implementation.

12.30 The target group for SDA training programs comprises civil servants in the central and line ministries, as well as researchers and employees in research institutes working with the country project. The focus will mainly be on upgrading the skills of professional, technical and support staff, with emphasis on training at the workplace, combined with on-site or short off-site training modules. Despite the difficulties inherent, it is hoped that a core group of individuals associated with the country project can be identified for various training activities over a substantial length of time. This will maximize the benefits of the training and ensure continuity between training and the work environment. Emphasis is being placed on involving African training institutions, in collaboration with donors and other agencies, such as the Munich Centre for Advanced Training in Applied Statistics for Developing Countries, the ILO and the EC. Capacity building is an important goal for the training program, since without effective African training capabilities supporting the program, there is little guarantee that relevant human capital formation will, in the long run, be maintained at an appropriate level.

12.31 In short, the expected results of the overall training effort are two-fold: enhanced national skills in all areas of relevant activity; and a stronger national and regional training capacity to meet the manpower skills required to incorporate the social dimensions into public policy objectives.
Concluding perspective

Part III has sought to provide an overview of the range of policy measures which require attention in the course of formulating poverty-oriented adjustment programs. As the focus of adjustment policies has shifted during recent years to encompass wider objectives than simply attaining macro-economic equilibrium, so too has the realization that the impact of macro policies on the well-being of households and individuals is complex, often pervasive, and, above all, not well understood. Economic theory must now give way to empirical application as a result of the wide variety of socio-economic conditions in the countries of Sub-Saharan Africa. The relationship between structural adjustment and poverty presents even more hurdles for policy design, due in no small measure to the great variations in the kinds of poor households found in most African countries, and to the diversity of their income and expenditure patterns as both consumers and producers. The effects of various macro-policy instruments on such households are thus difficult to determine, much less predict. Yet some understanding of this interaction is necessary for the design of effective policy interventions.

Even as African countries begin to build up their database on household social and economic indicators, it is possible to undertake policy actions which encourage greater participation by the poor in the newly emerging economic environment, and which protect others who have been transitionally affected by the adjustment process. A number of measures were discussed in the areas of public finance, monetary and financial policy, exchange rate and trade policy, and employment policy which can shift the thrust of adjustment toward supply expansion and away from demand restraint, in order to achieve the dual objectives of sustainable growth and poverty reduction. Through shifts in the mix and sequencing of policy instruments available under adjustment, the poor and vulnerable can be assisted without causing major distortions in economic mechanisms, which might threaten macro-economic discipline. In fact, policy reform provides an opportunity to address the problems of these groups anew. The SDA policy agenda for country activities, summarized in the previous chapter, has outlined a number of ways by which the attainment of this goal can be facilitated through improved macro and sectoral policy management, the use of social action programs to help poor and vulnerable groups, strengthened national information systems, and an effort at institutional building and training.
End notes

Part I

1 The term 'meso' is derived from the Greek, 'mesos' or middle. It therefore describes those elements which come between the macro and the micro. It was first used in the context of the adjustment/poverty debate in Cornia et al (1987).

2 Some countries have also suffered from military and civil instability, which have been economically destabilizing.


4 Thus while African countries took some exchange rate action over 1980-82, the real exchange rate nevertheless registered a 31 percent increase between 1969-71 and 1981-83 for a representative group of 14 countries (World Bank, 1986b: 67)

5 Botswana's rapid tightening of monetary policy after the second oil price shock is one rare example (see Harvey, 1985)

6 In their survey of adjustment experiences over 1980 to 1983, Zulu and Nsouli (1985: 14) cite a number of examples of fund-supported programs during that period whose success was limited by unforeseen factors — including for example Madagascar (fall in coffee prices), Malawi (failure of the maize crop), Sierra Leone (unfavorable weather), and Zimbabwe (disruption of the transport system).

7 Corden (1986) considers that the flex-price dependent-economy model is appropriate in many developing-country situations.

8 The effects of adjustment on poverty under quantity rationing are discussed briefly below, but see also Demery and Addison (1988).

9 Note, here size concerns the relative importance of the country's exports and imports in relation to world markets.

10 For a discussion of the endogeneity of the tradables/non-tradables and exportables/importables divisions see Dornbusch (1980: 94-5) and Timmer (1986: Ch.4).

11 While food is sometimes classified as a non-tradable good (see for example Lal (1986) on the Philippines), most analyses of Africa treat it as a tradable commodity — see for instance Lipton (1987), Norton (1987) and Bevan et al (1987a).

12 For example Devarajan and de Melo (1987) in their model of three Francophone countries describe domestic manufactures as semi-tradables, because of the high rates of protection behind which they operate.

13 See Dervis et al (1982, chapter 6) and Shoven and Whalley (1984: 1034), and Michel and No.1 (1984: 21) for applications to the Côte d'Ivoire.

14 The model we use here has its origins in Dornbusch (1974, 1980), but follows closely the
extension and refinement by Collier (1988).

15 In a putty-clay model, where capital once accumulated is sector specific, its transfer across sectors is effected through capital depreciation in the declining sector, and accumulation in the expanding sector.

16 For convenience, money supply is measured in units of foreign exchange in this model, since it means that an x percent devaluation is equivalent to an x percent increase in domestic money supply.

17 Comparing point C (in Figure 2) with point A, it is clear that since \( P_s \) is fixed, both \( P_m \) and \( P_a \) must be higher, so that the demand for money will be higher at C than at A.

18 For simplicity, we are assuming that the loci drawn hold even when other markets are in disequilibrium. This means that NN continues to signify market-clearing values of relative prices even when the money market is characterized by non-zero excess demands. In other words, NN and LL are assumed to signify effective as well as notional equilibrium values.

19 \( P/P_a \) is given by the slope of a ray through the origin.

20 Edwards (1988a) shows that a terms of trade deterioration (improvement) has the similar effects in the domestic economy to an increase (decrease) in tariff rates (or their equivalent). The only difference is that the income effect is greater under the former.

21 The capital-labor ratio in each sector is given by the slope of its iso-cost curve.

22 This assumes, of course, that the exportable sector is more labor intensive than either importables or non-tradables.

23 Where the rate of interest on loans is fixed by the government rather than by the market (as in so-called ‘repressed’ banking systems), this effect will work through the real loan interest rate. Thus, while the nominal rate remains fixed, the real cost of credit will fall in proportion to the rate of inflation.

24 In many countries small farmers effectively lend to the crop marketing boards since crops are collected but payment comes later.

25 It should be emphasized that these results are largely illustrative, and depend on the assumptions that were made. For example, they depend on the assumption that the deflationary effects of the terms of trade decline were more than offset by the fiscal expansion; or that the exportables sector is the most labor intensive, etc.

Our concern is to provide a structured basis for our thinking on these issues. What actually occurs in each country situation will of course depend on which of a number of important assumptions applies.

26 Note that if devaluation were carried out without fiscal and monetary contraction, the NN curve would remain at \( N'N' \), so that excess demand will emerge for non-tradables, \( E \) being to the left of \( N'N' \). This will raise \( P_r \), taking the economy back to D. For devaluation to restore equilibrium at \( E \), therefore, it must be combined with a contraction in aggregate demand shifting NN to the left, and LL upward.

27 It is at this point that official trade statistics usually begin to underestimate trade flows.


29 These relate to GDP growth, investment performance, savings performance, export growth, real exchange rate, current account balance, budget deficit, inflation, and external debt. These nine indicators measure performance in four areas of policy concern — growth, external balance, internal balance and external debt.

30 Balassa (1988: 17-20) also found evidence for expenditure switching in SSA in the better performance of agricultural output growth and import substitution.

31 Compare, for example, the results reported in Table 2.4a of World Bank (1988a) with those in Tables 19 and 20 of World Bank/UNDP (1989).

32 The reason why a devaluation is a necessary complement to a cut in absorption lies in a downward inflexibility in \( P_a \). If it were fully flexible, a demand contraction would be a sufficient corrective, since it would induce a real exchange rate depreciation through a fall in \( P_r \). But with \( P_a \) inflexible, the real exchange rate depreciation must be induced through an exchange rate devaluation — i.e., an increase in \( P_r \).

33 This assumes that there is no unemployment in the domestic labor market, so that increased employment in tradables has to be drawn from non-tradables labor.

34 Long-run movements in the wage can also be illustrated, with the flow of capital into the tradables sector shifting the labor demand curves — \( VMP_t \), upward and \( VMP_o \), down. The final equilibrium would depend on the relative factor intensities in the two sectors.

35 This formal/informal-tradable/non-
A tradable combination is obviously only one of a number. Addison and Demery (1989b) analyze the full range of possibilities, including the case where tradables and non-tradables are both produced in the formal and informal sectors. Again, our purpose here is mainly illustrative - to demonstrate how the framework can address this issue.

36 This Harris-Todaro (1970) construct is now well established in the literature (e.g., Edwards, 1988a), although the underlying assumptions it implies are not always made explicit. In particular, it assumes that all workers have an equal chance of formal-sector jobs and that the turnover rate in the formal sector is unity (see Addison and Demery, 1989b for details).

37 This is because the real wage in terms of non-tradables has risen, but it has fallen in terms of tradables - recall that the rise in $W_t/P_t$ is less than the increase in $P_t/P_t'$ so that $W_t/P_t'$ falls.

38 This is consistent with one of the stylized facts observed for developed countries, that in recession the formal sector takes the brunt of the employment adjustment and that the informal-formal wage gap widens (see McDonald and Solow, 1985).

39 Financial sector policy conditions were not particularly prominent in adjustment lending in SSA according to the World Bank (1988a) study.

40 The real exchange rate appreciates under import controls or tradables through two processes: first, the nominal exchange rate will appreciate in the face of the induced balance of payment surplus; and second, the prices of non-tradables will tend to rise as a result of import restrictions as consumers switch from importables to non-tradables.

41 Here the logic of Figure 3 is reversed.

42 Note, we confine ourselves here to the short-run case. We know that in the longer run, the effect on factor returns will depend on relative factor intensities.

43 See Addison and Demery (1989a) for a general discussion of the liberalization phasing issue.

44 An alternative approach in the structuralist tradition would be to assume fix- and flex-price sectors (Taylor, 1983).

45 This may have some significance in the context of developing countries. For example, if the exportables sector is subject to some form of excess capacity, and if labor there is underemployed, a devaluation can raise exportables output without requiring a labor transfer process out of non-tradables. The additional labor is obtained from the unemployment (or rather, underemployment) pool.

46 Depending on the length of the import-compression phase, there will have been some loss of productive capacity. For example transport and manufacturing equipment may have deteriorated through an inability to obtain imported spare-parts. Similarly, soil-quality and crop-yields may have deteriorated. Thus, some measure of reinvestment will be required, and it may thus take several years for output levels to recover.

47 $N^*T^*$ is therefore to be considered the 'effective' production frontier, since it is subject to the output-reducing effects of the domestic relative price distortions within the tradables sector.

48 We do not assume that $N^*T^*$ represents the full impact of the extra finance and micro-policy reforms on aggregate output, since these are expected to work through gradually. $N^*T^*$ simply represents the point that output has reached in the short term.

49 Note that many households previously reliant on formal-sector employment have now been forced by recession to supplement their incomes through self-employed activities. We should also note that all households, irrespective of whether they are employed or self-employed, undertake the production of goods and services for household use (see below).

50 The labels applied to the different concepts of the family are presented by Sen (1983a), reprinted in Sen, (1984a).

51 For a more extensive discussion of these problems see Schultz (1989).

52 See Guyer (1986) for an anthropologist's perspective, and Jones (1986) and Dey (1981) for evidence from North Cameroon and The Gambia respectively.

53 For a discussion of the evidence from Africa, which suggests that most households do not pool income, and that expenditure decisions are frequently made at the individual level, see Guyer (1988) and Fapohunda (1988).

54 The items produced by household labor-time are termed 'Z' goods in the literature, thus distinguishing them from purchased commodities, usually called 'X' goods (Deaton and Muellbauer, 1980: 245). Thus for example, a household health-care input ($aZ$) is 'produced' using household labor-time, and purchased commodities —
such as medicines (X goods). The distinction between Z and X goods is important because it highlights the crucial role of home-work in transforming X goods into consumables.  

55 Note that many more links between the key variables could be added in Figure 14, including for example the link between household health care and education and human capital. In poor societies these may be more important sources of human capital than the health and education services provided by the outside world (whether through the market or by the state).  

56 See, for example, Yotopoulos and Lau (1974), Barnum and Squire (1979), and Singh et al (1986b).  

57 See also Ellis (1988: 128) for a useful summary of these models.  

58 It is assumed that the household’s endowment of the fixed factors of production is constant within the production period. Thus, the curvature of the HPF reflects diminishing marginal returns to labor.  

59 The allocation of time between homework and leisure can be shown by defining a separate household production function for home-work (see King and Evenson, 1983: 55).  

60 Incompleteness arises when private markets fail to deliver a good or service, even though the cost of provision is less than what individuals are willing to pay.  

61 The analysis of such situations often gives prominence to the demographic structures of the household since variations in the ratio of non-workers to workers in the household will give rise to differences in the preference of work against leisure, and thus different equilibrium points for households otherwise faced with identical production functions (Thorner et al, 1966 and Nakajima, 1969).  

62 In so far as adjustment programs increase the access of households to markets, the relative usefulness of recursive, as opposed to simultaneous models, will change over time. This is an important ‘meso-economic’ consideration in the analysis of household welfare under adjustment, and one that is discussed further in later sections.  

63 However, there are exceptions - women provide 35 percent of the labor on tobacco in Swaziland and 37-47 percent of the labor on cotton in Malawi, while men provide 45-60 percent of the labor on upland rice in Sierra Leone (Guyer, 1986: 296).  

64 This assumption is made to simplify the analysis. In practice, it is common for the entire household to work certain fields collectively, and the food produced or the income earned is distributed by the male household head. Individual members also cultivate separate fields. The produce is controlled by the cultivator concerned, and often stored apart from the crop of the cooperative fields. For example in Burkina Faso, McMillan (1987) in one area under study found that jointly worked fields accounted for 60 percent of the total area planted and 60 percent of recorded labor hours. Individually worked fields accounted for the remainder.  

65 This assumes that the household’s stock of land is not fixed so that the amount can be varied between production periods (but we retain the assumption of the earlier model that land cannot be varied within the production period). Variations in the amount of land used by one household member do not require compensating variations in land use by another. African rural economies are often described as land abundant, although there are some important qualifications. Making this assumption simplifies the analysis. See King and Evenson (1983: 58) for a model where total household land is fixed (applied to the land-scarce economy of the Philippines).  

66 Ignore for the moment the vertical arrow at point L’W.  

67 For example McSweeney (1979) reports that in Upper Volta (now Burkina Faso) rural women work an average total of 9.78 hours per day as against 7.55 hours for men. Eicher and Doyle (1982) report evidence that women work nearly 30 percent more total hours over the year than men in rural Tanzania.  

68 An example could be constructed where the man and woman work together, their product sells for $200, and the man transfers $90 to the woman.  

69 See Kuznets (1976) on using household income as the appropriate welfare unit when income is pooled.  

70 Such ‘additional-worker effects’ become important during periods of recession and adjustment, as the fall in earnings of the main breadwinner forces other household members into economic activity.  

71 Applying this technique to LSMS data on the Côte d’Ivoire, Deaton (1987: 4,18) finds no evidence that males are treated more favorably than females in the intra-household allocation of food. However, the allocation of adult goods is
heavily biased towards adult males: women, old men, and particularly old women, appear to have much less access. Sen (1984b) cites African examples of bias against both females and children (see also Crawford and Thorbecke, 1980, on Kenya). Much of the evidence on the existence of such biases comes from South Asia (again see Sen, 1984b).

5 The group's elders often regulate marriage transactions as well. Control over women, and therefore over the reproduction of future workers, is central to the success of labor-intensive agricultural systems (Swindell, 1985: 38).

72 The group's elders often regulate marriage transactions as well. Control over women, and therefore over the reproduction of future workers, is central to the success of labor-intensive agricultural systems (Swindell, 1985: 38).

63 Note, those neither buying nor selling in the initial equilibrium (that is consuming and producing at A) will gain, and will become net purchasers of labor services following adjustment.

74 This implies that the marginal utility of leisure is zero over the relevant range. This assumption is simply required to keep the exposition simple — in two dimensional space.

75 Note, in Figure 19, W/Pi (i = t,n) gives the real product wage (and therefore the real purchasing power of the wage) in terms of each commodity.


Part II

1 See the Appendix for a brief introduction to the concepts of the SAMs.

2 Note that NFP and NTR could be positive or negative, but they are entered with these signs to be consistent with the treatment in Helmers and Dornbusch (1988; p. 380).

3 Pyatt and Thorbecke (1976) discuss the merits of wealth, sociological criteria and location as a means of classifying households.

Part III


2 The number of people in the subsistence economy who are relatively unaffected by adjustment has almost certainly declined since 1980. Their self-reliance has been diminished considerably by the increased frequency of drought across the region. They have thus been forced to rely on outside help precisely at a time when governments have been least able to assist.

5 For a discussion on the role of fiscal policy in achieving macro-economic balance, see World Bank, 1988f. This section draws on a recent paper by Fischer and Easterly (1989).

6 For instance, adjustment programs were repeatedly blown off course in the early 1980s by fresh shocks (Zulu and Nsouli, 1985). Do we ascribe output contractions to the shocks or to the policies put in place to respond to the shocks?

7 For example, in Tanzania, one study has shown that education is second only to cattle in determining household income variation within villages (Collier et al, 1986). In Côte d'Ivoire the educational attainment of the household head is found to have a strong positive correlation with household consumption expenditures (Glene, 1987:18). And in Ghana the risk of food poverty falls as households' education rises (Kyerere and Thorbecke, 1987:1196).

8 For instance, in Kenya it is estimated that only 10 percent of all borrowers from formal credit institutions are rural women (World Bank, 1989a).

9. The groups themselves select their own members, and the outside lending institution reduces its risk and transaction costs by lending to the group, which then on-lends to its members (Desai, 1983).

10 This means that their prices are mainly determined by local market conditions, since remoteness implies little trade with other markets, and thus little influence on local subsistence food prices of changes in market conditions elsewhere.

11 Chhibber et al (1989), for instance, show in their study of Zimbabwe how relatively small macro-models can be used to simulate these effects. Although wage adjustments enter into their model, larger models involving greater disaggregation may be needed to deal with income distribution effects.

12 Although the initial wage improvement may be small when unemployment characterizes the pre-liberalization situation. Note that mining may be the exception with regard to the high labor intensity of exportables in general.

13 Under this method all tariffs above a cer-
tain ceiling are reduced to that ceiling. In the next stage, a new lower ceiling is set, and all tariffs are reduced to it, and so on (World Bank, 1987b: 110 and Michaely 1986).

14 Of course, a devaluation must also accompany trade liberalization to maintain external balance.


16 ILO (1986) and World Bank (1989d: 41) estimates for 1985-2020. Out of 168 million employed people in 1985, agriculture employed 131m, small/micro-enterprises 27m, and the modern wage sector 10m. By 2020 these numbers will be 311m, 206m, and 32 m respectively on current trends.

17 Variation in the climate and ecology of regions are a more important source of household income-inequality than in Asia and Latin America, where farming technologies, together with a much greater use of irrigation, permit a greater regional dispersion of cash cropping.

18 Such off-farm employment is more important for poorer households than for the wealthy in Botswana, Nigeria and The Gambia. Evidence from northern Nigeria, Sierra Leone, and Malawi shows that off-farm income accounts for 50 percent of total income for the smallest landowners, and under 25 percent for the largest (Haggblade et al, 1987: 12).

19 For instance, Lesotho, Tanzania, and Uganda.

20 In Ghana and Zambia, for instance, women account for over half those employed in non-farm enterprises. But in some societies their participation is low because of cultural factors.

21 In effect, the wage rigidity becomes endogenous to the market.

22 The analysis plan on the smallholder sector was prepared for the SDA project by the International Fund for Agricultural Development (IFAD). These plans were reviewed in Chapter 9.

23 For a more detailed discussion of training for social-dimensions objectives, see SDA Regional Training Program (World Bank, SDA Project Unit, October 1989), draft.
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